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JANUARY, 1931

Prevent Small-Pox and Diphtheria

The danger of Small-Pox epidemics during the present winter is largely increased because of the greater number of scattered cases occurring in nearly every State; again less favorable living conditions increase susceptibility to the disease

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NEW YORK, JANUARY, 1931

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Progress of Medicine in 1930

MALFORD W. THEWLIS, M.D.
New York City

There are no outstanding discoveries this year and in recording certain trends in medicine due consideration must be given to the fact that progress can only be measured by extensive observations over a long period of time. We may speak of a trend not to use digitalis in routine cases of pneumonia or a step in the direction of searching for the alkaloids of stramonium. We may direct more attention to the search for a disease, as for example, the early diagnosis of carcinoma of the lung. We may note a tendency to revive the use of Southey's tubes, originally described in 1877, for the treatment of obstinate cases of edema. Increased attention to the diagnosis of foreign bodies in the lung by means of bronchoscopy is a decided advance. Many of these patients, supposed to have pulmonary tuberculosis, have been suffering from foreign bodies in the lung.

There is an increasing attention given to vitamins. Recently the strength of viosterol has been increased two and a half times with the same dosage given.

Stramonium for encephalitis.—From experiments covering from three to ten years with encephalitis, A. L. Jacobson and F. Epplen conclude that stramonium is an excellent palliative remedy for parkinsonian syndrome of post-encephalitis origin, and also of some benefit in idiopathic paralysis agitans. Very large doses are necessary. It is desirable that a search should be made for development of alkaloids of stramonium. (*J. A. M. A.*, 93—2027, 1929.)

Effect of Diuretics on Tissues.—From experiments

with rabbits which he gave muscular injections of theophylline ethylenediamine and other diuretics, Dr. Geo. M. Curtis believes that the primary action of specific diuretics is on the tissues. These initiate changes which result in the rapid passage of electrolytes, principally chlorides, into the blood stream. These act as stimulants to the kidney. There is doubtless also an action on the renal cells. Intraperitoneal injections change the response, as it opens a new path for the chlorides and other electrolytes. (*Proc. Soc. Exper. Biol. and Med.*, 27; 238-240, Dec., 1929.)

Carcinoma and bile.—H. E. Robertson questions the standard theory that carcinoma is caused by a destructive division of a cell, all new cells deriving from it having the same sinister characteristics. No one, he observes, has ever seen the original cell or any of its descendants. He sets up two sets of facts deduced from his observations: first, that no line of demarkation, no defensive agency exists in the adjacent mucosa. "May it not be that there is no injury, no invasion by a foreign group, but only a slight perversion in metabolism of the cells spreading to neighboring regions?" Fully fifty per cent. of the persons over 30 years of age show some form of polypoid hyperplasia of the colonic mucosa. The second set of facts has to do with bile-bathed surface, the only difference being whether the bile is fresh or not. "I venture to suggest that there may be some component of this substance which, supplied to the blood-stream, might prevent all carcinomas." Environment

plays a heavy rôle in treatment of carcinoma. (*Colo. Med.* 27; 4, Jan., 1930.)

Blood Amylase Estimation in Pancreatic Diseases.—Experiments with 60 patients by Dr. R. Elman determined a concentration of amylase by a new method. Uniform values (from 4.3 to 6.8 units) found in 25 unselected cases with no suspicion of disease of the acini of pancreas. The same normality was found in 11 additional cases which were examined. Definite deviations from the normal were found in 21 of 23 cases where disease of the pancreas was established. In most cases the increase in the blood amylase was found from 7.8 to 150 units, and in some a definite decrease from 0.5 to 3.1 units, which has a clinical value. (*Arch. of Surgery, Chicago*, 19: 943, Dec. 29, 1929.)

Fever Therapy in Infectious Diseases.—Mulzer and Ketning differentiate between three phases of shock therapy: threshold, or weak stimuli at the focus of the disease; provocation phase, or strong stimuli, which propagates rather than cures, and has no therapeutic value; and the "panergic" phase, in which a whole organism reacts in such a way that the reaction in the focus of the disease is not noticeable, or maximal fever. As malaria therapy has its shortcomings, other methods should be studied, but maximal fever therapy is the best method. (*Deutsche med. Wchnschr.* 55; 2086-2091, Dec. 13, 1929.)

X-ray Study of Molecular Structure.—Atoms and molecules in their groupings always follow a distinctive pattern. Atoms always arrange themselves with crystalline regularity, if given a chance, and thus every material writes its own "signature." G. Shearer, D. Sc., says that muscle can be examined in the same way. (*J. A. M. A.*, 94; 728, Mar. 8, 1930.)

Diet and Teeth.—Mrs. Edw. Mellanby emphasizes the effect of diet on teeth. She produces evidence to show that Vitamin D, found naturally in egg-yolk, milk, suet, or cod liver oil, and artificially by irradiation of ergosterol, is the key to the nourishment of animals' skin. Heating destroys the calcifying factor, but Vitamin D overcomes this. Her experiments show that it is possible to produce at will any degree of dental structure mainly by regulating the diet. (*J. A. M. A.*, 94; 728; Mar. 8, 1930.)

Psittacosis.—Prof. F. Mayer cites as the most immediate symptoms from seven case histories, changes of tongue and pharynx and a violent thirst. There may be said to be a general typhoid condition. Also there is liver damage, fast pulse, swelling of spleen, and muscular weakness. Two points he emphasizes in bacteriological diagnosis: (1) Absence of Nocard bacillus; (2) presence of streptococci in blood in three cases. Everything points to the assumption of a specific, invisible virus, which, after an incubation period of from 4 to 12 days, enters the system by way of the pharynx. The mixed infection may be conveyed from man to man but there is no record of the primary infection being conveyed except from bird to man. The prognosis is especially grave with advancing years. (*Berlin letter, J. A. M. A.* 94; 730; Mar. 8, 1930.)

Gastrophotography.—Heilpern and Porges say that their device will eliminate some of the dangers of gastrosocopy. It can not replace roentgenoscopy but can supplement it. It should be done when the stomach is empty. With more experiments they hope to improve the apparatus and its diagnostic value. (*Klin. Wochenschr.* 9; 15-19; Jan. 4, 1930.)

Early Diagnosis of Whooping Cough.—Where blood examination is not practicable, Ochsenius recommends rectified oil of turpentine with from 5 to 10 per cent of eucalyptol in an atomizer to produce a typical cough

within a few minutes after inhaling. (*Munchener med. Wochenschr.* 76; 2167-2168; Dec. 27, 1929.)

Cancer.—Cancer even in its final stages is never a genuine local disease but only the local manifestation of a general derangement. If this is admitted then the destruction of a solitary tumor is not an essential therapeutic factor. Removing the entire cancerous tissue does not guarantee non-recurrence since natural causes are not eliminated. Definite therapeutic results obtained by irradiation of a single tumor bring about the disappearance of other tumors, even at a distance from the irradiation.

Biologists have discovered in the animal or human body a system of cells in which the defensive forces of the body reside. They are capable of destroying the cancer cells, and can also produce defense materials dealing directly with the causative factors of cancer.

Therapeutic intervention must be divided into two distinct items. (1) Mechanical removal of exceptional growth; (2) biochemical attack on causative factors. The already degenerate part of the growth will have to be removed by artificial means.

The other aspect of the therapeutic problem will be the changed relation between stimulating and regulating forces, the essential feature of which effort is biochemical. While it is known in a general way that the intake of some proteins or metallic compounds stimulates functional capacity of reticulo-endothelial cells, it is necessary to determine exactly what substance increases carcinophagic activity of the macrophages, which materials will stimulate defensive regulating ferments and neutralize temporarily the stimulating ones. Along these lines it may be possible to develop a national chemotherapy of cancer. These are the conclusions of a study by Gustave Kolischer, (*J. A. M. A.* 94; 625; Mar. 1, 1930.)

Basal Metabolism.—Higgins and Bates have devised a method by which a single test of from 2 to 4 minutes, and 25 to 45 minutes for a whole study, suffices for determination of basal metabolism in children. (*American Journal of Diseases of Children* 39; 71; Jan. 1930.)

Cancer and Blood Pressure.—P. Feldweg gives tabular results of his tests on women with cancer of the uterus, vagina and vulva, covering one to two years, and treated with radium or roentgen rays. Some of them had been operated on and treated later with irradiation. The method of treatment had no influence on blood pressure. There was a decline in blood pressure when the carcinoma was progressive, but in cases in which therapy had been successful the blood pressure increased again. (*Munchener med. Wochenschr.* 76; 2005; Nov. 29, 1929.)

New Instrument for Laparoscopy.—Kalk has devised a laparoscope consisting of three parts—an improved trocar, with simplest penetration of the abdominal wall, a lamp carrier and an optical system with facilities for orientation in abdominal cavity. (*Zischr. f. Klin. Med.* 111; 303-348; 1929.)

Cerebrospinal Circulation.—C. F. Sams describes a method of injecting trypan blue into closed subarachnoid space, with observations of its movements. The evidence shows that there is no true circulation of the cerebrospinal fluid. Oscillations in the fluid, due to pulse and respiration, play no rôle in the movement of the cerebrospinal fluid. Reduction of pressure by lumbar puncture creates artificial circulation towards the point of puncture. This is of clinical importance. (*Arch. of Neurol. and Psychiatry* 23; 130-151; Jan. 1930.)

Cancer.—Coffey and Humber have done experimental work with endocrines since 1925 to find a stabilizer of

tissue growth. After many failures an extract of suprarenal cortex from sheep was made which reduced blood pressure when injected subcutaneously. Further developed, it stabilized growth. They report a case of malignant growth which disappeared. One patient who had an embryonal cancer of the testes which could not be removed was given the first injection August 27, 1927, and is without evidence of tumor. Another with cancer of the rectum (inoperable) was given the first injection September 1, 1929, and in February, 1930, had no tumor and seemed to be recovered. The essential changes are necrosis of tumor cells which can not at present be differentiated from those growing naturally in malignant tumors. The work to date (Feb. 1930) has been of an experimental nature to determine the effect on malignant tumors. Softening and liquefaction has occurred in all cases. (*Calif. & West. Med.* 32; 313-320; May, 1930.)

In a later report they announce 2,600 patients under their control from January 6 to August, 1930, and more than double that number turned away because wanting credentials from their physicians. They have secured a patent to control the manufacture of their product. Clinics are in San Francisco, Los Angeles, and Long Beach. 13.3 per cent have died, about the same number who would have died without treatment. The authors are convinced that their product has a vasodilator action, pain in cancer being caused in their view by vascular constriction. Through questionnaires they learn from their patients that 71.5 per cent had pain relieved; 10.3 had no pain; 12.8 per cent were not relieved, and 5 per cent were doubtful. (Coffey, W. B., and Humber, J. D., *Calif. & West. Med.* 33; 640; September, 1930.)

(As yet the accepted methods of treating cancer are surgery, radium and X-rays.)

Vitamin D and the Parathyroids.—Morgan and Garrison experimented on young dogs to raise the blood calcium level by parathyroid extract. The experiments were conducted with the simultaneous presence of vitamin D in the body of the dog. A deficiency in the antirachitic factor prevented hypercalcemia which is usual after injections of parathyroid extract. When both viosterol and parathyroid extract were given in concentrations of serum calcium increase was observed. These data indicate that increases of calcium in blood induced by viosterol and parathyroid extract are inter-related. (*J. Biol. Chem.* 85; 687-711; Feb. 1930.)

Cutaneous Bacteriolysis.—Singer and Arnold cleaned human skin with soap and water and applied broth cultures of non-pathogenic and pathogenic micro-organisms, including *Bacillus prodigiosus*, *B. pyocyaneus*, *B. coli*, *B. typhosus*, and strains of staphylococcus. From 90 to 95 per cent of the bacilli were killed within 10 minutes. Micro-organisms of the colon-typhoid group were destroyed rapidly; pyogenic cocci relatively slowly. These results were obtained only with clean skin. With dirty or greasy skins the same organisms survived. The finger-nail region was found to be defective in self-disinfecting power. These discoveries open a field of research for assisting this hitherto unrecognized biochemical defense through therapeutic methods. (*Proc. Soc. Exper. Biol. and Med.* 27; 364; Feb. 1930.)

Diabetes insipidus.—Marcel Labbé and his co-workers, Boulin and Bezancon, have presented a new treatment by using extract of the posterior lobe of the pituitary body. A young woman experienced polyuria with excessive thirst after an infectious sore throat. Injections of pituitary extract regularly decreased diuresis. The anti-diuretic effect of the extract was marked and proportional to the quantity injected. The authors suc-

ceeded in isolating the anti-diuretic principle. 2 mg. will reduce the diuresis from 15 liters to 450 cc. (*Bull. et mem. Soc. med. d. hop. de Paris* 54; 10-13; Jan. 20, 1930.)

Diathermy in Pneumonia.—In giving 8,000 treatments for this disease, Stewart had not a single accident or ill effect. A drop in temperature occurred in 96 per cent of the cases. It interfered with no other treatment. His evidence supports the conclusion that mortality from pneumonia may be reduced one-half by diathermy. (*British Jour. Actinotherapy* 4; 238; Feb. 1930.)

(This method of treatment is not in general use. The treatment of pneumonia depends upon the individual case.)

New Method of Roentgen Examination of the Lung.—Chantraine vites the use of a machine using alternating current and with a roentgen tube equipped with a revolving anticathode. (*Beit. z. Klin. d. Tuberk.* 73; 117-140; 1929.)

New Method of Chemotherapy in Lung Treatment.—Spanier has demonstrated in experiments on animals that "it is possible to use heterogeneous leukocytes that have phagocytosed a therapeutic agent as a vehicle for transporting the therapeutic agent to the lung." Heterogeneous leukocytes injected intravenously pass to the lungs and are retained there. These have the power to take up therapeutic agents and carry them to the lung, where the agent exercises a therapeutic action on the lung tissue. (*Beit. z. Klin. d. Tuberk.* 73; 210-231; 1929.)

Knowledge of Leprosy.—Huizinga is convinced that epidemiologic work must supplement that of the laboratory. More observations are necessary to prove that the Wassermann reaction is negative in leprosy cases. After the age of 40 infection is rare. Doctor Shingo, of the Imperial Institute of Seoul, Korea, is working on the growth of a culture of *Mycobacterium leprae* from human lepromas obtained from leper colonies in Korea. (*Mederl. tijdschr. v. geneesk.* 74; 136-141. Jan. 11, 1930.)

Counting Red Blood Cells.—Exton dilutes blood 1:1,000 with a solution consisting of 2 per cent sodium citrate and a diluted solution of formaldehyde—U. S. P. (1:10) which keeps them in good condition at room temperature. The blood may be collected and diluted in a hemacytometer pipet, and then diluted again ten times. After mixing the turbidity is measured with the junior scopometer. The technic of the simple scopometer is more rapid and accurate than with the photoelectric scopometer, and eliminates the microscopy of blood counting. (*J. A. M. A.* 94; 1573. May 17, 1930.)

Lupus Vulgaris.—A new method of administering violet rays is given by Matussis, which combines Kromayer's and Bach's lamp. In 67 cases he obtained good results with clinical recovery in 79 per cent and complete recovery in 18 per cent. (*Odessky M. J.* 4; 429; 1929.)

New Serologic Type of Salmonella.—Warren and Scott obtained culture under the following circumstances. Three children of one family died at intervals of four to six months, in each case due to gastro-enteritis, death occurring within 24 hours from the beginning of the illness. On the death of the third child a post mortem examination showed *Salmonella aeritricke* in its organs. Specimens of feces from surviving members of the family were examined. From the mother's specimen a salmonella was isolated agglutinating with *Salmonella paratyphi* and *Salmonella enteritidis*. (*J. of Hyg., London*, 29; 415-417; Feb., 1930.)

Immunity.—Monod offers evidence to the effect that mineral waters convey specific immunity. A practical application of his experiments might be found in cases where it is important to propagate the organism from

neutropic toxins. Some natural water might have specific phylactic action. The antianaphylactic effect of waters might be tried in most chronic diseases. It has been empirically applied for centuries. Monod urges further study. (*Lancet*, 1; 227-230; Feb. 1, 1930.)

Diphtheria Vaccination.—In Berlin a number of vaccinated children contracted diphtheria and died. Pockels thinks this is due to the use of vaccines other than sub-neutralized toxin-antitoxin. In Germany the use of these vaccines has been discontinued. In place of them either Schmidt's toxin-antitoxin flaccules or a neutral toxin-antitoxin mixture was used because these vaccines did not cause reactions. Pockels demonstrated that children thus inoculated did not always develop sufficient protective substance. (*Deutsche Medizinische Wochenschrift* 56; 48; April 5, 1929.)

Bile Acid Content of Urine.—Samarin and Myasnikov show the value of the fluorescence method of measuring the bile acid content of urine because it is specific, and also because the bile acid content of a 24-hour specimen may be determined. Bile acids are present in small amounts in the urine of normal persons. (*Terapevtichesky Archiv* 7; 799.)

Yaws.—Mathis and Wilson in a study of 1,423 patients in a rural health station in Haiti state that 61.9 per cent of the cases were under ten years of age and 19.2 per cent in the second decade. There is a tendency of the moist exposed surface of the body to the infection. The yaw leaves a scar which generally remains through life. The time interval between the appearance of the primary lesion and the secondary eruption varies from 2 to 4 weeks, or even longer. Arsenic-resistant cases occur occasionally. Acetarsone seems to be the arsenical of choice for general rural treatment of yaws. (*U. S. Nav. Med. Bull.* 94; 1289-1292; Jan., 1930.)

Tuberculosis Therapy.—Goldberg emphasizes that newer methods are not away from the established triad of rest, fresh air and food, but supplementary. One important factor is immunization. The *Bacillus Calmette-Guerin*, administered orally during the first ten days of life to perhaps 200,000 children, is, owing to doubtful statistics, still considered debatable.

The Pasteur Institute, however, states that the children of Lubeck, supposed to have been inoculated with B C G vaccine, were by mistake inoculated with virulent tubercle bacilli. The Public Health Office has brought suits against 46 physicians, charging them with homicide. More than 50 children have died as a result of the inoculation. The culture supplied was above reproach, according to the statement of the Pasteur Institute, but it became contaminated in the process of revaccination at Lubeck.

Segregation is at present the prime consideration. The development of chest surgery not only for advanced cases, but also for early stages, may cause much faster recovery than sanatorium care alone. The removal of the phrenic nerve is often beneficial. In food, the newer research indicates that minerals and vitamins in proper ratios are essential for healing the tuberculous lesion. (*Ann. Int. Med.*, Mar., 1930.)

Psittacosis.—Peterson, Spalding and Wildman describe observations on 11 patients during investigations at the Hygienic Laboratory, Washington, 1930. The first two of these cases had direct contact with parrots, but the other nine cases are difficult to explain. They all worked in the building where the psittacosis work was carried on, though they had no access to it, and the usual safeguards were employed. Seven of the cases were admitted to the U. S. Naval Hospital. A detailed account is given of the case of one patient who died and of one who recovered. For the first time their study em-

braced daily roentgenologic study of lung involvement; as complete laboratory work as the knowledge of the disease permits; the use of immune serum in daily doses with apparent benefit; careful pathologic study of the fatal case, and presumptive evidence eliminating *B. psittacosis* as the causative agent. This conclusion is in agreement with Armstrong, McCoy and Branham (*Pub. Health Rep.*, Apr. 4, 1930, p. 725) and Bedson, Western and Simpson (*Lancet*, Feb. 1, 1930, p. 235), who believe a filtrable virus is the cause. A like conclusion is reached by Rivers and Berry (*Proc. Soc. Exper. Biol. and Med.* 27; 802.) (*J. A. M. A.* 95; 171-188; July 19, 1930.)

Epilepsy.—Fay believes the hydration state, local or diffuse, is a factor in epileptic convulsions, and that these convulsions may be eliminated by proper compensation in the patient's fluid balances. (*Jour. of Nerv. and Men. Dis.* 71; 481; May, 1930.)

(*Observations on the use of a ketogenic diet for this disease are being continued.*)

Improved Instrument for Measuring Surface Temperature.—The thermocouple method is the standard one in determining temperatures in the extremities. An ideal instrument must have accuracy, simplicity and speed. In the improved apparatus devised the essential parts have been put in a compact case and the sensitivity of the electrothermal junctions increased by putting four couples in series. It takes less than 10 seconds to a reading. (*J. A. M. A.* 94; 1987; June 21, 1930.)

Therapeutics of Viosterol.—Hess, Lewis *et al.* have made tests on a number of patients. Viosterol is a remarkable curative agent for rickets—reliable and rapid—and never associated with hypercalcaemia. The present method of standardizing viosterol on the basis of "cod liver oil units" is on a false premise that the action of cod liver oil and viosterol is the same in infants as in rats. A better method is to compute the potency directly either as protective or curative "rat units." The dosage should be increased 2½ to 3 times, preferably by increasing the strength of the solution. (*J. A. M. A.* 94; 1885; June 14, 1930.)

Brewers' Yeast in Pellagra.—In treating 176 cases in Mississippi in 1927, Carley lost only one patient during the treatment. No relapse had been suffered by 104 after 50 days of treatment; 33 cases showed symptoms of relapse, and 3 special cases treated with ¼ of an ounce daily for a year showed no sign of relapse after 13 months of observation. The regular dose was 1 ounce a day. (*M. & S. J.* 82; 740-744; May, 1930.)

Physical Therapy in Hypertension.—Watkins in 17 cases found that physical therapy was of value. In the type of hypertension which is due to arteriosclerosis, with or without kidney efficiency, the response to the physical therapy is poor, although there may be a temporary improvement. The majority of patients suffering from the primary type of hypertension have been treated by means of the electrical cabinet bath to promote skin elimination. Occasionally with this treatment massage and hydrotherapy have been frequently used. (*Ohio State Medical Journal* 26; 604; July, 1930.)

(*My observations on the use of physical therapy in hypertension have not been encouraging over a long period of time.*)

Intestinal Obstruction.—White and Fender, of the Harvard Medical School, have kept animals with complete intestinal obstruction in good condition over a long period by preventing loss of digestive secretions. The vomitus is immediately injected into the lower bowel through a fistula. They think it improbable that a potent toxin can be absorbed in the mucous membrane while its blood supply is maintained. They believe that death

in such cases is due to the loss of salt and water in the gastroduodenal secretions. If patients live long enough, they dechlorinate to a certain extent by vomiting. They may even secrete chloride into the obstructed gastrointestinal tract without vomiting, and so salt solution should be used in every case. (*Arch. Surg.* 20; 897-905; June, 1930.)

Dogliatti and Mairano inquire how the sodium chloride introduced thus into the system is utilized. They advance the theory that it unites with the toxins produced by the occlusion, neutralizing them and giving rise to a non-toxic product. Their observations show the fundamental importance of increased elimination of sodium chloride by the gastric route in hypochloremia due to occlusion. (*Minerva med.* 1; 459-464; Mar. 17, 1930.)

Manic Depressive psychosis in Twins.—Bradley has observed for 12 years twin women who have had manic depressive attacks of the same general type. This is evidence that this psychosis is a defect in the germ plasma. Bradley knows of no case on record of dementia praecox in one of identical twins, nor of mongolism nor epilepsy, without the other twin being involved. This observation strengthens the observations of others that mental disease depends on a hereditary defect in the germ plasma. (*Am. J. of Psychiat.* 9; 1061; May, 1930.)

Ultraviolet Radiation.—The final effects are not yet determined and people should not be encouraged to use ultraviolet rays on the human body without due care and advice, in the opinion of Bunker. Careful response must be made to treatment and he warns that to play with these rays is to risk a danger. (*New England J. of Medicine* 202; 1929; June 26, 1930.)

Multiple Sclerosis.—There has been some interesting work done in this disease, experimenting with vitamin B. G. L. Dreyfus and K. Mayer (*Deutsche Medizinische Wochenschrift*, May 23, 1930) have made some studies on the malarial treatment of multiple sclerosis and conclude that the treatment is not dangerous if we exclude groups of cases of patients who are in bad physical condition and those who suffer from affections of metabolism and the circulation. The course of malarial treatment could be succeeded by antimony or arsenic in organic form, and this in turn by a course of recurrent fever infection.

The 1930 Type of Polyneuritis.—There have been many cases of polyneuritis reported due to the ingestion of one or more two-ounce bottles of Jamaica ginger. Burley (*N. E. Jour. of Med.*, June 12, 1930) states that the condition arises about two days to two weeks after taking the solution. The onset was sometimes marked by a mild gastric disturbance but usually the first change noted was a peculiar paraesthesia of the legs, a sense of coldness, tingling, and muscle fatigue in either the calf or the anterior aspect of the lower leg, followed by toe-drop and marked ataxia. After about a week paralysis involved the hands and wrists. There were no characteristic findings in laboratory tests. The affected muscles are splinted in a favorable position and later massage and the galvanic current are employed.

Albumin in Cerebrospinal Fluid.—A simple and rapid method for determination is described by Berger. From 2 to 3 cc. of sulpho-salicylic acid is placed in two small test tubes with flat bottoms. To one of these 1 cc. of cerebrospinal fluid is added, and to the other an albumin solution of known concentration. When the turbidity is the same in the two solutions, the quantity of albumin added to the second test tube indicates the albumin contained in the cerebrospinal fluid. The identical degree can be determined by looking through the test tube at the same letters. This method can also be used in deter-

mining the albumin content of urine and of serum. (*Klin. Wochenschr.* 9; 888; May 10, 1930.)

Irradiation Effect on Cholesterol Content of Blood in Cancer.—Malczyński used a quartz lamp to which persons whose normal cholesterol content had been determined were exposed from 10 to 15 minutes. The rays were applied on the back at a distance of 60 cm. Following the irradiation the cholesterol content was again tested. In persons without cancer the blood cholesterol had increased 15 to 43 per cent. Control tests made at intervals disclosed that normal conditions prevailed again in about 98 hours. In patients with cancer the cholesterol content of the blood decreased from 25 to 40 per cent, thus showing an opposite effect from those without cancer. In this case also normal conditions return in about the same time. (*Klin. Wochenschr.* 9; 936; May 17, 1930.)

Dessicated stomach in pernicious anemia.—Isaacs and Sturgis in further experiments conclude that dried, defatted hog stomach may secure a remission in pernicious anemia. Dried material (15 Gm.) corresponding to 100 Gm. of fresh stomach, is effective, or it may even be obtained with 7 Gm. of this material. A safe clinical dosage is 10 Gm. for each million red blood cells deficit. The maintenance dose is 10 Gm. from 5 to 7 times a week.

No marked difference has been observed between the liver and stomach therapy. (*J. A. M. A.* 95; 587; Aug. 23, 1930.)

(More time required to thoroughly evaluate this treatment.)

Staining Tubercle Bacilli.—A new method has been developed by Moss and as it does not involve damage to histologic detail of tissues the organisms can be detected with relative ease. The stained specimens may be examined for their cell structure, and may be permanently filed. (*U. S. Vet. Bur. M. Bull.* 6; 590; July, 1930.)

Modern Treatment of Rheumatic Disease.—The adoption of any one of the methods of treating rheumatism to the exclusion of the rest is a danger to be avoided, says W. S. C. Copeman, since the intelligent combination of remedies is the keystone to success. Foci of infection, with especial attention to the colon, should be eliminated in the preliminary treatment, both in arthritic and non-arthritic types. Persons with rheumatoid arthritis should be persuaded back to protein, fat, and vitamins, especially vitamin B. Hydrological and physical forms of local treatment, particularly with sweating, are good. Rest and avoidance of cold and constipation, with well-balanced diet, are most important. In osteoarthritis spa treatment is of great benefit, with hydrotherapy and massage, and later electrotherapy. Among useful drugs is iodine with milk. Colloidal iodine and the tincture are ineffective. Ortho-iodoxybenzoic acid and neocinchophen have recently become popular. Arsenic which is chiefly indicated in the atrophic type and in patients with anemia should be given in small doses, gradually increased. Sodium cacodylate ($\frac{1}{4}$ to $\frac{1}{2}$ grain) is probably the most harmless form. Thyroid extract is suggested by the basal metabolism being below normal. Sulphur is believed by some to be of value. (*British M. J.*, May 24, 1930, p. 942-944.)

(Proper orthopedic treatment, vitamins well selected, proper intestinal elimination and physical therapy are sheet anchors.)

Curability of Cancer.—John B. Deaver states that curability depends on early detection and treatment, on the site of the tumor, its nature, and the presence or absence of metastases, as well as the constitutional peculiarity of the patient. The only cures have come from surgery and a few from irradiation. Stanley P. Reimann and Fred-

erick S. Hammett have made a study of cell mitosis, since cell division is the only factor common to all kinds of cancer. In roots of plants and in animals sulphur is in the nuclei of cells in mitosis, and must be combined with hydrogen, namely sulphhydryl. If this is true, cells should divide and grow if given sulphhydryl. In stubborn wounds, such as leg ulcer and bed sore, rapid healing has resulted from use of sulphhydryl compounds. Experiments prove that normal cell division never takes place unless sulphhydryl is present. The next step is to find the substance that stops cell division. The kind of research which seems the best hope is the chemistry of the body which normally starts, stops and controls cell divisions. (*Ann. Surg.*, June, 1930, 91; 841-847.)

(Not easy matter to determine when cancer is cured.)

Gland Filtrate in Hodgkin's Disease.—Edward M. Hanrahan reports nine patients treated by the immunological method suggested by Wallhauser and Whitehead. An extract made from specific lesions of the disease, autogenous and bacteria-free, was given subcutaneously and in small and usually increasing doses. Hanrahan prepared the filtrate differently from the process of Wallhauser and Whitehead. The glands were cleaned of fat and washed of blood aseptically, in a "bacteria-free" room, with sterile saline solution. They were then placed in a tissue press and the fluid of the glands collected. This was then filtered and the filtrate diluted with saline solution, in proportion of 1 gr. gland substance to 5 cc. of filtrate plus saline solution. After incubation and culture, this was preserved by addition of one part 0.35 per cent tricresol to two parts filtrate. The filtrate was administered three times a week, subcutaneously, and continued for six weeks. After a rest of two weeks, another six-weeks' period of treatment began. After a second rest period treatments were given once a week until stopped. Of the 9 patients, 5 died, 3 of whom had transitory remissions; 3 were apparently unaffected, and 1 was slightly improved for a time. (*Ann. Surg.*, July, 1930, 92; 23-24.)

New Method of Administering Pollen Extract.—Pollen reactions are not necessary to the success of treatment; do not seem to be useful either to the patient or the physician, and should and can be avoided, in the view of Duke. Tolerance can be obtained by use of tourniquets above the site of the inoculation; admixture of epinephrine and ephedrine with pollen solutions; use of a standard of volume for solutions injected, and avoidance of intravenous injections through the use of the subcutaneous method. (*J. A. M. A.* 94: 767. Mar. 15, 1930.)

Recent Advance in Treatment of Malaria.—While cinchona alkaloids still constitute the only specific remedy for malaria, plasmochin has a definite effect on clinical malaria. Such is the conclusion of C. C. Bass, who believes nevertheless that its toxicity, which is associated with methemoglobinemia, requires care in its use. Evidence which has been adduced that plasmochin has a specific action on the reproductive power of gametes he considers very important but requiring further confirmation. (*J. A. M. A.* 95: 988-92.)

W. E. Deeks finds that administration of 1 centigram of plasmochin does not always prevent oocysts from developing in mosquitoes, but that they were fewer in numbers. He states furthermore that mosquitoes were not infected which fed on patients who were given 2 centigrams of plasmochin. (*South. M. J.*, May, 1930, p. 417-20.)

Newer Conceptions of Nutrition.—William Weston gives results of experiments in the South Carolina Food Research Laboratory. He states that no scientific basis

exists for the expression "balanced diet," unless the chemical composition of the parts composing the diet is known. He emphasizes that fruits and vegetables grown in sections containing different soil characteristics vary in mineral contents. Where individuals and young children are not progressing satisfactorily a hemoglobin test should be made. The proportion of the mineral element in the milk must be known. The mineral content of milk can be improved by adding spinach, lettuce or carrot top concentrate. He states that oysters contain a large mineral content than liver and should be considered as a substitute. Emphasis is placed on the view that the generally accepted standards for infant feeding are misleading. (*J. A. M. A.* 95: 834-37.)

Fever Therapy in Tic Douloureux.—Charles R. Ball believing that tic douloureux is a functional nervous disorder, applied fever therapy in ten difficult cases. He used milk as the fever-producing agent. The milk was boiled and allowed to cool, and then injected intramuscularly four days in succession, beginning with 5 cc. and increasing the amount 5 cc. on succeeding days. During and after treatment he gave a capsule of $\frac{1}{2}$ to 2.3 gr. phenobarbital, with 10 gr. calcium lactate after each meal.

The fever reaction was from 102° to 105° F., but lasted only a few hours. In some cases, during the reaction, morphine was given to make the patient more comfortable. In all these cases the tic was of long standing. All remained free from pain except one, who received only one milk injection. Doctor Ball does not present this treatment as a substitute for alcohol injection or a radical operation. (*Minn. Medicine*, Aug. 1930, 556-63.)

New Derivatives of Barbituric Acid.—John S. Lundy and Claude F. Dixon state that sodium iso-amylethyl barbiturate (sodium ayntal) has been used in about 2,000 cases at the Mayo Clinic between April 1929 and April 1930. The drug was used intravenously in 753 cases, rectally in 12, and orally in the remainder. The most common bad results were pulmonary edema and bronchopneumonia, seemingly the result of large doses. Small doses must probably be used.

The drug has been used successfully as an antispasmodic in convulsive conditions. For the average adult patient one or two hours noticeable effect for each grain administered may be expected.

Sodium ethyl 1-methyl Butyl B—(Sodium embutal) was used in 705 cases. It is essentially antispasmodic and sedative and there is less delirium with its use than with the sodium amyntal. Only about $\frac{1}{2}$ as much of the drug is required for effect as the amyntal. "We believe that the morbidity, if not the mortality, incident to the administration of general anesthetics and possibly of local anesthetics may be materially reduced by the use of preliminary medication with these barbiturates. They seem to allay fear, keeping the patient's tolerance normal for the anesthetic that is to be used. Both have been useful in operations on the thyroid glands as they make it possible to operate with local anesthesia. The patient may be awakened at any time during the procedure to determine if injury has been done to either laryngeal nerve." (*Minn. Med.*, Oct. 1930, p. 679-81.)

Ultravirus of Tuberculosis.—Since 1923 Calmette and his associates have been studying pathogenic particles which are found in the filtrates of cultures of tubercle bacilli (apparently fresh cultures). The ultravirus is in many body fluids and passes through the placenta and affects the fetus. The unknown virus can be cultured in special media (vitaminiferous). In these cultures the toxin is not a tuberculin. It tends to locate in the lymphatic structures and is capable of carrying diseases in which the ordinary tubercle bacillus is not rep-

resented. In another group ultravirus and the tubercle bacillus are paired, the virus constituting the primary infection, and the tubercle bacillus alone being pathogenic. The ultravirus alone can produce inflammation of the serous membranes, tuberculides, and even acute miliary tuberculosis. Calmette is silent about the discovery in America of pathogenic bacilli and carbohydrate extracts of tubercle bacilli. (*Deutsche medizinische Wochenschrift*, May 2, 1930.)

Treatment of Angina Pectoris with Muscle Extract.—An extract of the skeletal muscles of a calf has been used with good results in 73 cases of angina pectoris by Prof. J. F. Schwarzmann of Odessa. The types showing improvement were the angina of effort of Vaquez and the ambulatory angina of Wenckebach. M. S. Schwarzmann of London reports good results also from its use in three cases of intermittent claudication.

The injection is made subcutaneously. There is some debate about its active principles. Doubtless it acts by overcoming the arterial spasms which are associated with the disease. The depressive substance or the cardiac hormone or both conjoined ought to give better results than a mere muscle extract according to Zuelzer. The cases of intermittent limp carry the most weight as they were treated in the neurological clinic of Sir James Purves Stewart at Westminster Hospital. Treatment extended over a long period as good results appeared only after pushing the remedy. In two cases the tibialis posterior was pulseless and in two there was radiographic evidence arteriosclerosis. (*Muenchener medizinische Wochenschrift* May 2, 1930.)

Improved Hearing in School Children.—Increased use of the phonograph audiometer has made it possible to detect minor defects in school children and the institution of proper treatment to prevent deafness.

Correction of Speech Defects in School Children.—There are great possibilities in this procedure to correct speech defects in school children. Teachers properly trained can handle a large number of children, detecting decapitation and decaudation of words, stammering and stuttering, lisping, etc. In some parts of the country this work is progressing well. In other parts it is neglected.

Carcinoma of the Lung.—Much more attention is being given to the diagnosis of this condition. It is not uncommon to find a primary new growth in the lung.

Removal of Sympathetic Ganglions.—By removal of sympathetic ganglions and nerve trunks, patients suffering from thromboangiitis obliterans, Raynaud's disease and certain types of arthritis have been relieved. Also certain types of congenital dilatation of the colon have been benefited.

Thrombo-Angiitis Obliterans.—Intravenous injections of hypertonic salt solution and abstention from tobacco, according to Silbert, works well in this condition.

Ephedrine.—Experiments indicate that this is not a habit-forming drug.

Tetanus and Anaerobic Antitoxin.—This combined anti-toxin is in use.

Asthma.—In the study of this disease we must not overlook the fact that asthma secondary to nasal infection necessitates a complete removal of this infection.

Angina Pectoris.—Sussman (*Am. Jour. Roentgenology*, Aug. 1930) reports several cases of angina pectoris relieved by paravertebral irradiation.

Blood Chemistry.—Simplified apparatus and technique have made it possible for the general practitioner to make satisfactory examinations of the chemistry of the blood in a short time.

Ambulatory Cardiac Patients.—Gold and DeGraff

(*J. A. M. A.* 95; 1237, Oct 25, 1930) point out that in the average ambulatory cardiac patient with auricular fibrillation and moderate heart failure, smaller doses of digitalis are required for an "effective concentration" than is needed in the average bedridden patient in advanced congestive failure. The average ambulatory patient will improve on relatively small doses of the drug.

High Carbohydrate-Low Calorie Diet for Treatment of Diabetes Mellitus.—Rabinowitch (*The Canad. M. A. J.*, 13:489, Oct. 1930) gives his experience with a diet of high carbohydrate-low fat content in the treatment of diabetes mellitus. If the fat content is kept very low and the caloric value is within the minimum requirements, it is possible, in the majority of cases, to make the diet of the diabetic quite attractive even without the use of insulin. When insulin is required the dosage and frequency of administration is less than with ordinary diets.

Takata-Ara Test for Cerebrospinal Fluid. This test, less sensitive than the colloidal gold reaction, is said to be positive in 70 to 100 per cent of cases of neurosyphilis.

Digitalis in Pneumonia. There is a growing feeling that the routine use of digitalis in pneumonia is dangerous.

Syphilis of the Lung. It must not be forgotten that syphilis of the lung simulates tuberculosis.

Syphilis of the Stomach. Not an uncommon condition.

Southey Tubes in Treatment of Edema. Bland and White (*J. A. M. A.*, 95:1489 Nov. 15, 1930) have called attention to the use of Southey tubes (discovered in 1877) for the treatment of obstinate edema, in suitable cases. Their results seem to warrant a revival of Southey's original method.

The Roentgen Ray in Obstetric Diagnosis

1. A positive roentgenogram of the fetal skeleton is proof of the existence of pregnancy. This may be added as a fourth positive sign of pregnancy and may be obtained as early as the fourteenth to fifteenth week in 15 per cent of cases, at sixteen to eighteen weeks in 75 per cent and beyond the eighteenth week 100 per cent of the cases.

2. A positive diagnosis of normal and abnormal pregnancy, including many types of fetal abnormalities, can be made by the roentgen ray, provided the pregnancy is at or beyond the eighteenth week. The farther advanced the pregnancy the more positive the diagnosis.

3. A positive diagnosis of fetal death can be made by roentgen ray, apparently within three or four days after death, provided the pregnancy is at or beyond the sixteenth week.

4. A positive diagnosis of pregnancy complicating fibroids of the uterus can be made by the roentgen ray, provided the duration of the pregnancy is sixteen weeks or more.

5. A positive differential diagnosis between pregnancy and other pelvic tumors (soft myoma, ovarian cysts, etc.) can be made by the roentgen ray, provided the pregnancy is at or beyond the sixteenth week.

6. The filming "dosage" herein recommended is perfectly safe for the fetus.

7. Every patient who is a candidate for cesarean section should have a roentgenogram taken to determine the normalcy of the child.

8. A positive roentgenogram may be offered in court cases as proof that pregnancy exists.

9. Finally, it is highly desirable that the obstetrician cooperate with the roentgenologist and thereby help to further develop, simplify and popularize a very important adjunct in obstetric diagnosis.—Harvey B. Matthews, M. D., in *Amer. J. Obs. and Gyn.*, Nov., 1930.

Advance in Medicine is of Recent Origin

The medical profession is removed from the prejudice and ignorance of the middle ages by only a few centuries, perhaps by only one century, but this removal is much greater when measured in terms of achievement, according to the Surgeon General of the Public Health Service, Hugh S. Cumming.

Progress in Surgery During 1930

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From the vast literature of surgery during the past year only cursory references can be made to operative innovations of importance or to results observed which show progress from the newer methods of surgical treatment which have come into vogue during recent years. A few matters referring to improved diagnosis and anesthesia and other matters directly associated with surgical operations are also reviewed.

Surgery of the Head and Neck

In two patients, showing psychic disturbances following old intracranial injuries, Sattler¹ exposed the rolandic region and removed a small portion of the cerebral cortex. The motor and vasomotor disturbances ceased and the patients recovered.

Lodge² describes a new plastic operation designed to ameliorate disfigurement and to prevent impending corneal ulceration in long-standing cases of lower neuron facial paralysis, especially those due to mastoid disease or trauma. Three new ligaments are grafted into the face and sustain the drooping eyelid and palsied sides of the mouth and make them conform to a more pleasing facial expression.

Watson describes a new operation for closure of a postoperative mastoid fistula. An incision is made down to the bone an inch or so posterior to the auricular attachment. A large flap is dissected up with a tonsil elevator to the fistula, special care being taken where the flap is adherent to the dura. The tip of the fistula is grasped and cut free from the posterior meatal wall and a Korner flap is cut and sutured to the anterior tip of the fistula by a Mathews suture. The fistula is then inverted and the raw surfaces sutured.

Lindemann³ discusses the advantages of free osseous autoplasmic grafts in repair of lower jaw defects, especially loss of mandibular continuity. Experience of about 1480 cases of such transplantations in the West German Jaw Clinic has shown that they do not remain permanently but are absorbed; however, they stimulate osteogenesis and are replaced by permanent new tissue formation.

Billington and Round⁴ applied the experience obtained in 75 war compound fractures of the mandible by means of bone grafts. A portion of the crest of the ilium is used for the graft. Three civil cases were successfully grafted.

Axhausen⁵ describes a plastic method of closing openings between the oral cavity and maxillary sinus. The fistula is closed and a flap of mucous membrane, lined with the upper layer of muscle of the cheek and pedicled toward the cheek, is used to close the opening.

McKenty⁷ reports a new operation for cleft palate in which an incision is made along both edges of the cleft and the periosteum is elevated from the center outward to about the apex of the alveolar ridge. To relieve lateral tension a silver or lead band about 1 cm. wide is passed through an incision just posterior to the alveolar ridge into the nasopharynx and brought out through one similar on the opposite side. The ends of the band are brought together and clamped. Gatti⁸ has also described an improved technic for uranostaphylorrhaphy (fissured

palate) with special precautions in anesthesia and hemostasis.

Dillinger⁹, on the basis of his experience in 2,200 cases during four years, describes the advantages of electrocoagulation diathermy as a method of tonsillectomy which avoids the many dangers in other methods. Seiffert¹⁰ has developed a new operative method for carcinoma of the esophagus by the endoscopic route employing circular resection of the esophagus. Lahey¹¹ describes a new two-stage operation for pharyngo-esophageal diverticulum. He emphasizes the importance of a proper dissection of the neck of the sac and of a high implantation of the dome of the sac.

Pool¹² gives a simplified technic for subtotal thyroidectomy in exophthalmic goiter, the principal innovation in which is avoidance of section of both sternohyoid and sternothyroid muscles. In this new procedure, the sternohyoid is retracted and only the sternothyroid divided; no effort is made to repair the muscles at close of the operation.

Surgery of the Thorax

The surgical treatment of pulmonary tuberculosis continues to make progress.

Berard and Lardennois¹³ state that in 98 cases operated upon before Jan., 1929, including 39 treated by thoracotomy and 34 treated by partial thoracotomy, very good results were obtained in 22, good results in 18, fair in 7 and no results in 2. In 120 phrenicectomies, 53 gave positive results.

Frank and Miller¹⁴ state that of 100 pulmonary tuberculosis patients treated by phrenicectomy, 40 showed improvement. This operation is also an adjuvant to artificial pneumothorax and should be considered in every case with cavitation.

Archibald¹⁵ reporting upon 212 cases for which some form of surgical treatment was undertaken states there were 172 thoracoplasties with 16 deaths ascribable to the operation, the majority of which could be considered as due to insufficient experience or to insufficient caution in selecting the patients most suitable for this method. In the favorable cases, 83 per cent were cured. He condemns one-stage operations.

Sauerbruch¹⁶ reported to the 7th International Conference against tuberculosis (Oslo, Norway, August, 1930) that in 1,200 thoracoplasties performed for pulmonary tuberculosis he had obtained 40 per cent. of recoveries and that in strictly unilateral cases the percentage of recovery may be as high as 80 per cent. Several other reporters also cited excellent results from the same surgical procedure.

Leuret, Charrier and Caussimon¹⁷ report that in 33 cases in which phrenicectomy was done for pulmonary tuberculosis, there were 10 operative deaths. In 17 cases with advanced lesions, the results were quite favorable, some for a period of two years duration.

Villandre and Tacquet¹⁸ in their technic for phrenicectomy and thoracoplasty perform the wide rib resection in three stages, removing three or four ribs at a time at intervals of fifteen days. This avoids severe shock.

In extirpating a pulmonary lobe, Nissen¹⁹ thinks it is extremely difficult to avoid a purulent pleurisy. Follow-

ing animal experiments, he has found it possible to obtain a total perilobar pleural symphysis by this artifice: After opening the pleural cavity, the pulmonary lobe which is about to be extirpated is completely covered by a sterilized silk cap. In two weeks, the pleural symphysis is complete.

Labat²⁰ calls attention to the value of alcohol injections for the relief of postoperative pain and intercostal neuralgia following thoracoplasty.

Regarding suppurative conditions of the lung and bronchi, Coryllos²¹ in advanced forms of bronchiectasis recommends a technic of multiple stage lobectomy in which the following steps are systematically performed in the order named: Artificial pneumothorax, phrenicectomy, thoracoplasty and lobectomy. Two cases of advanced bronchiectasis, in which cure was achieved by this technic, are reported.

Muller²² reports a series of cases of lung abscess surgically treated with an operative mortality of 28.5 per cent. and a final mortality of 40 per cent. Fifty-six (56) per cent. of the survivors are clinically well and others improved.

Ochsner²³ treated a series of 112 cases of roentgenologically diagnosed cases of bronchiectasis by repeated injections of iodized oil. A symptomatic cure was obtained in 32 per cent. and symptomatic relief in 36 per cent., a much better result than with medical treatment.

Hart²⁴ reports 35 cases of acute empyema treated by continuous tidal irrigation and suction. The irrigating fluid is not run into the chest under pressure but is drawn in by the expansion of the chest during inspiration. The fluid is at a tension less than atmospheric pressure.

Churchill²⁵ reports a successful case of decortication of the heart for adhesive pericarditis. Somewhat over 30 such operations have been recorded in the literature, more than half having been successful.

Leriche and Bauer²⁶ removed operatively an enormous sarcoma of the wall of the heart (diagnosed as a dermoid cyst of the mediastinum). The patient died of shock a few hours later.

Himmelman and Lehmann²⁷ report their results in 271 cases operated in the Bonn Clinic during the past year for cancer of the breast; 37 were operated for metastases. Only about 9 per cent. of these patients were in the first stage of the disease. The operative mortality was 2.7 per cent. Taking into account those treated by surgery alone, the percentages of 3 and 5 year duration recovery were 42.5 per cent and 34.6 per cent respectively. When radiotherapy followed the surgical intervention the figures were 32.4 per cent and 16.7 per cent respectively. The statistics prove that cancer of the breast should be treated by surgery alone.

In thyroidectomy, Nordland²⁸ in order to avoid injury to the recurrent laryngeal nerves recommends extrafascial ligation of the inferior thyroid artery, according to de Quervain's technic.

Surgery of Abdomen and Digestive Tract

Quain²⁹ calls attention to the life-saving value of a prophylactic gastrostomy following operations for acute perforations of gastric and duodenal ulcers. It keeps the stomach collapsed and empty, and stops leakage while adhesions are forming to close the perforation.

Lambert³⁰ suggests a new operation for the correction of gastric ptosis, by suspension of the great curvature of the stomach in a sling formed of aponeurosis taken from the rectus muscle. The result has been excellent in 23 cases sufficiently long observed.

Balfour and McCann³¹, on the basis of 54 cases of sarcoma of the stomach in which a partial gastrectomy

was the general operative procedure, find 12 of the patients living for at least 5 years postoperatively; one patient survived operation 9 years.

Murard³² shows that of 49 patients, operated for gastric conditions who received a preoperative vaccination with polyvalent vaccine, there was a postoperative pulmonary complication in only 14 per cent. This represents about half the percentage in unvaccinated patients.

Heile³³ modifies Ramstedt's operation for pylorospasm in infants by adding a second, posterior pylorotomy. He thinks that this complementary operation is necessary because following the original Ramstedt operation gastric evacuation is generally incomplete.

In von Haberer's³⁴ hands the results of resection for gastro-duodenal ulcer continues to improve. In 2,310 resections—127 transversal, 706 Billroth II, 1,276 Billroth I, and 201 Billroth I with termino-lateral gastro-duodenostomy—there were only 15 failures, 0.6 per cent. Pauchet and Luquet³⁵ describe their technic and results in stomach resection for ulcers in the superior third. The curved area encircling the ulcer is resected (groove resection) first and the remainder of the stomach is joined by a Pean anastomosis to the duodenum following gastropyloric section.

Partipilo³⁶ describes an improved aseptic clamping method of gastrointestinal anastomosis. Moise³⁷ reports a series of cases in which gastro-jejunosomy was performed with a transverse jejunal incision. Many advantages are claimed over the longitudinal incision.

Berard and Heitz³⁸ recommend a two or three stage removal of the affected portion of the bowel in intestinal tuberculosis. They think that, if diagnosis and surgical treatment is early, favorable results will frequently follow. Simeoni³⁹, in order to avoid the high mortality of primary resection of the intestine, favors exclusion of the diseased part by a preliminary operation so as to allow the organism to become adapted to the new conditions and gain strength for the more radical operation. This method was quite successful in a case of bowel tuberculosis cited.

Czyzewski⁴⁰ advocates extirpation of the colon as the method of choice in volvulus of the sigmoid loop. The resection is made at once, a few weeks after reduction of the volvulus, or in 2 stages according to the condition of the bowel.

Some articles have appeared in the literature directing attention to the high mortality in operations for acute appendicitis. Deaver⁴¹ in regard to this gives the reasons as a wrong selection of the time of operation, and, even if the operation is opportunely timed, because it is not complete due either to poor surgical judgment or to lack of experience or both. He never uses the McBurney incision in cases of acute perforated appendicitis. In practically all of these operations, spinal anesthesia is used.

Deaver thinks that the best time to operate is before the onset of peritonitis, if it is possible. In practically all cases of circumscribed peritonitis, operation can be safely done at once with the proper technic; deferred operation is the best policy in the presence of diffused peritonitis. In regard to removing the appendix, Deaver says that the only case in which he does not do so is in the circumscribed abscess of several days standing in which there is no evidence of surrounding peritonitis and in which the appendix is not seen or felt. Here removal of the appendix is deferred until wound healing is complete.

Delore and De Girardier⁴² in cases of intestinal invagination in which it is impossible to dis-invaginate, describe a new method of resecting the invaginated

knuckle of bowel through an incision made in the intestinal sheath. It was successful in 4 cases.

Owing to the dangers of splenectomy in cases where extensive adhesions fix the spleen to neighboring organs, Silvestrini⁴³ has found the gradual extirpation of the hypertrophied organ satisfactory. The excisions are made at some days' intervals.

Mentzer⁴⁴ points out the tendency to conservative treatment in acute cholecystitis. He concludes that the treatment should be conservative if the patient is under constant observation; immediate surgical intervention being indicated only if the patient does not respond.

Finsterer⁴⁵ stresses the advantages of Sasse's external choledochoduodenostomy over other methods in the treatment of gallstone disease. He has done it 45 times. The results are good and the mortality only 4.8 per cent. There were no failures.

Lepoutre⁴⁶ reports a voluminous congenital umbilical hernia operated in an infant 2 hours old, with recovery. The hernial tumor was the size of an adult's fist.

Leroux⁴⁷ reports a case of acute puerperal peritonitis successfully operated upon about the forty-eighth hour, by laparotomy, drainage and removal of the right tube.

Von Jaschke⁴⁸ notes the great decrease of surgical operations in the treatment of abdominal tuberculosis in the female. Conservative treatment (including radiotherapy) is giving better results.

Mandl⁴⁹ in 1,000 rectal cancers extirpated by the sacral route found there were 70 per cent of recoveries lasting 5 years or more.

Surgery of the Genito-Urinary Tract

Walters and Braasch⁵⁰ report the first successful bilateral resection of the renal pelves for hydronephrosis.

Papin⁵¹ points out that nephrotomy can be done without suturing. Simple compression of the lips of the wound is sufficient for hemostasis in most cases when the wound is not very large. This method has been successfully demonstrated in many cases, though in the case of large calculi and deformed kidneys sutures will be necessary.

Herbst and Polkey⁵² by further experimental work on dogs have shown the practicability and comparative safety of even extensive resections of the kidney.

Coffey⁵³ believes that bilateral submucous transplantation of the ureters into the large bowel by his tube technic has now been perfected. He reports the results in 20 cases in which the operation has been done for various indications.

Kirwin⁵⁴ describes a new method of implanting the ureter in the rectal wall between the serosa and muscularis.

Pieraccini⁵⁵ reports 25 roentgenologically diagnosed cases of calculus of the ureter treated surgically by ureterolithotomy. In the United States, the usual treatment is non-operative, passing ureteral sounds of increasing caliber.

Young⁵⁶ describes a new procedure for resecting tumors situated fairly well down on the posterior wall of the bladder and not involving the vertex. The method is an intravesical resection of the entire bladder wall with the peritoneal coat. He claims that it is followed by better bladder functioning and is associated with less danger of infection.

Meherin⁵⁷ claims that there are disadvantages in the suprapubic and perineal types of prostatic removal for hypertrophy and states that ischio-rectal prostatectomy is more satisfactory. He gives the results in 148 cases by this method.

Harris⁵⁸ describes his technic for an improved suprapubic prostatectomy with closure; i. e., with re-forma-

tion of the torn prostatic urethra and without suprapubic drainage of the bladder. The mortality in 110 cases was only 1.8 per cent.

Gutierrez⁵⁹ performed seminal vesiculectomy in 100 patients with severe mental disorders and chronic inflammation of the vesicles. Forty-eight (48) per cent of these patients were benefited.

Kidd⁶⁰ advocates vasotomy for early acute urethritis and cites the good results in 5 cases in support.

Bonney⁶¹, a leading English gynecologist, reports 382 Wertheim radical operations for cancer of the cervix, 284 of which were done more than 5 years ago. Of these 284 patients, 110 are well at the end of the five or more years. Bonney is convinced that the mortality of the operation decreases with the increasing experience of the operator. From 1907 to 1910 his mortality was 20 per cent; from 1916 to 1924, 14.3 per cent; and from 1925 to 1929 only 8.1 per cent. The 5-year survival rate for the gland-free was 49.9 per cent as compared with 23.3 per cent in the gland-involved group.

Begouin⁶², studying the results of the complete Wertheim operations (75) carried out since 1904 for cervical cancer, finds 20 of those traced alive and well; 5 for more than 20 years; 5 for more than 15 years; 5 for more than 12 years and 5 more than 10 years.

Percy⁶³ finds that of 134 cases of cervical carcinoma treated by his method of cautery surgery 27 (20 per cent) are alive and well from 3 to 19 years after the treatment.

Gérin-Lajoie⁶⁴ describes a new method of transcervical drainage in purulent infections of the pelvis requiring supravaginal hysterectomy. Following the hysterectomy, the cervix is dilated, the posterior lip is split to its vaginal end and a T-shaped fenestrated drainage tube is pushed through the cervix into the vagina and held in place by the grip of the cervical stump.

Steele⁶⁵ notes that the Latzko method of extraperitoneal Cesarean section has had little vogue in the United States. It was introduced into the Lying-In Hospital, New York, in 1923 and the author states that since then it has been carried out in 59 cases. There was a maternal mortality of 8.5 per cent, 3 stillbirths and 3 neonatal deaths. Peritonitis occurred only once. This method has the advantage of a minimum risk of complicating peritonitis when employed in presumably infected cases.

Farrar⁶⁶ modifies the Warren apron-flap operation for repair of high laceration of the rectum associated with third degree laceration of the pelvic floor following labor; the modification differs from the original Warren chiefly in the outline of the flap and the modern method of repairing injuries to the pelvic floor by suturing the torn urogenital diaphragm and reuniting the separated levator muscles. The new flap is somewhat irregularly pentagonal in shape.

Skeletal Surgery

Froelich⁶⁷ points to the fact that even a slight traumatism of the spine might have very serious consequences. Vertebral fractures, hemorrhages, etc., may give no clinical symptoms nor x-ray evidence. All such patients should be kept in bed under complete rest and x-rayed constantly for some weeks, giving the vertebrae, if fractured, time to consolidate. Schmeiden⁶⁸ remarks that the roentgenogram has not solved the problem of diagnosis of fractures of the vertebral column.

Delchef⁶⁹ has successfully applied the Albee bone graft method of osteosynthesis in Pott's disease of the cervical or suboccipital region. Sorrel⁷⁰, reviewing his results for the past 10 years in cases in which he had performed osteosyntheses for Pott's disease, finds that he obtained excellent results in 60 of the 106 patients traced, good results in 21, middling in 9 and poor in 16.

Jaeger⁷¹ describes a new method of treating congenital

dislocation of the hip in infancy, in which it is aimed gradually to replace the dislocated head in its socket by means of a pressure pad placed over the trochanter which is gradually tightened by an adjustable screw arrangement. Soutter⁷² in congenital dislocation of the hip improves the technic of the method of providing a bony shelf in the ilium above the head of the femur by a grafting operation. His aim in securing a good bony shelf is to improve weight bearing, decrease fatigue and improve locomotion.

Many French surgeons such as Delayhay⁷³ draw attention to the excellent end results of arthrodesis of the hip for old coxalgia. Leriche⁷⁴ describes a method of bone grafting applied to coxalgia in evolution and osteo-articular tuberculosis in general. He clears out all defective lesions and fungosities, fills the cavity with an osteo-periosteal graft and then immobilizes by an extra-articular bone graft. Encouraging results were obtained. Key⁷⁵ recommends the use of osteo-periosteal grafts for arthrodesis of the shoulder joint, which operation is recommended for tuberculosis of the shoulder joint, paralysis of the deltoid and other chronic lesions. Harbin and Moritz⁷⁶ have made an experimental study of autogenous free cartilage grafts into joints, especially the knee joint. Examination of 13 such grafts in dogs show that they do not survive for more than a month or so.

Demel⁷⁷ points out that the present tendency is to limit the operative treatment of fractures since it is being recognized that functional results do not depend absolutely on the position of the fractured fragments. In over 5,000 cases of fractures, treated during the last 5 years at the von Eiselsberg Clinic, only 2.8 per cent were operated upon. Operative treatment is considered only to be indicated when non-operative treatment has failed. On the other hand, Young⁷⁸ says that an experience of twenty years and a review of the literature justifies open operation and the adoption of some type of direct fixation in the majority of fractures, especially of the long bones.

F. H. Albee⁷⁹ reports 754 cases of non-union of fractures operated by bone graft methods in which 89 per cent of the results were good. The site of fracture, the method of treatment, the complications and the results are given. Albee says: "It seems superfluous to point out the advantages of the inlay bone-graft method." Speed⁸⁰ also points to the advantages of bone grafts in ununited fractures.

Rostock⁸¹, reviewing the results of the treatment of 154 cases of patellar fracture, in 51 of which a conservative method was followed and in the other wiring or suturing, remarks that it is seen that the conservative treatment resulted in 43 per cent osseous and 57 per cent fibrous union. Wire suture of the patella gave osseous union in 67 per cent and fibrous union in 24 per cent with ankylosis of the knee in 9 per cent. So far as working capacity is concerned, it is immaterial whether there is osseous or fibrous union.

In 1927 Ludloff⁸² described a new plastic operation for the repair of injured crucial ligaments of the knee in which a silk ligature, enveloped in a fascial strip, is substituted for the crucial ligament. He now reports another case in which this procedure was successful.

Deputy de Frenelle⁸³ describes the operative details of his personally developed method of treatment of tuberculosis of the knee by bone grafts following the general method of Albee for Pott's disease bone grafting.

Bailey⁸⁴ reports 4 cases of acute osteomyelitis of the fibula in children in which rapid recovery followed early diaphysectomy. No permanent disability attends the removal of the shaft of the fibula. The shaft of the bone slowly regenerates.

Lexer⁸⁵ does a 2-stage operation for correction of complete flat-foot in adults. The first stage consists of an osteotomy, chiselling obliquely through the fibula and then loosening the internal malleolus so that its posterior edge is left intact in order that the firm support to the tibialis posticus will not be disturbed. After removal from the exposed surface of the tibia of a wedge-shaped segment with its base directed upward and anteriorly the internal malleolus is displaced forward by means of a U-shaped nail and fastened with strong tension on the deltoid ligament which has been well loosened on both sides. In the second stage of the operation the abduction in the anterior part of the foot is corrected. Lindeman and Brandes⁸⁶ report successful treatment of 50 cases of hallux valgus by resection of the proximal two thirds of the basal phalanx of the great toe.

Among minor procedures, Ogilvie and others⁸⁷ discuss the condition known as tennis elbow and arrive at the conclusion that it is due to a species of infective arthritis or else a traumatic synovitis which should be operated. Molesworth⁸⁸ describes a new technic of opening the elbow joint following an incision along the course of the ulnar nerve. His method is claimed to give a complete exposure of the complicated injuries involving bone, joint and nerves met with in this region. Garlock⁸⁹ gives a method of reconstruction of the axilla for contracture; this includes excision of scar tissue, transplantation of skin flaps from a distance and the replacement of the binding scars by normal skin and subcutaneous tissue.

Surgery of the Vascular System

In a traumatic case Marcus⁹⁰ sutured the torn inferior vena cava. Fifteen days later there was evidence of thrombosis of the right femoral vein, and 10 days later of pulmonary embolism. The author did a Trendelenburg operation opening the pulmonary artery and extracting 2 clots. The patient died of pneumonia 6 days later but autopsy showed that the suture of the vena cava as well as that of the pulmonary artery had held perfectly.

Meyer⁹¹ states that the Trendelenburg operation for embolism of the lungs, initiated in 1908, had had only one known success. The author has modified the operation by not opening the pleura and by covering the pulmonary artery with gauze instead of rubber. By these improvements there are now 7 cases in which the operation has succeeded. Martin⁹² succeeded in showing cinematographically the movement of a thrombus to the heart and its conversion into a pulmonary embolus. In the treatment of pulmonary embolism the heart should be strengthened, venesection should be done to relieve the right heart and the respiration should be stimulated.

Reviews of the literature together with personal experience in series of cases as reported by McPheeters⁹³, Heineck⁹⁴ and others, indicate that with careful asepsis, accurate technic and care for the contraindications, the injection treatment of varicose veins and ulcers is safe, rational and economic and replaces the excision method to the patient's advantage. The principal advances during the year in this method of treatment have been refinements of the technic so as to prevent the possibility of accidents, to avoid pain and permit ambulatory treatment of the patient as well as multiple injections at one sitting. Changes in the sclerosing solutions have also been made. McPheeters injects a combination of sodium chloride, invert sugar and dextrose. De Takats and Quint report 500 cases of injection treatment of varicose veins with only 10.8 per cent of recurrence. They prefer 50 per cent dextrose with the addition of 15 per cent sodium salicylate.

Some operative attempts have been made for the treatment of vascular hypertension. Porter and Porter⁹⁵ mention a case of paroxysmal hypertension with nausea

cured by the removal of an adrenal tumor, and Galata⁹⁷ reports the successful treatment of a case of severe menopausal hypertension by unilateral suprarenalectomy.

Surgery of the Nervous System

Poussepp, in the belief that the central canal of the spinal canal becomes dilated as the result of the collection of spinal fluid with a resulting syringomyelia, proposed opening the canal and draining. He opened the canal posteriorly. Oppel⁹⁸ remarks that the symptoms of syringomyelia are essentially those of an affection of the anterior portion of the spinal cord and thinks that the cord should be opened from the side showing the greatest destruction and compression. However, as opening of the cord anteriorly is technically difficult, he enters through the antero-external basal bundles immediately anterior to the denticulate ligament. By this method he reports excellent results.

Learmouth and Braasch⁹⁹, of the Mayo Clinic, report a case of traumatic cord bladder for the relief of which resection of the presacral nerve was done for the first time and successfully.

Leriche and Fontaine¹⁰⁰ in an experimental study of section of the spinal cord in dogs showed that high section of the cord did not entrain vasomotor paralysis. Any hypotension observed was the result of hemorrhage or operative shock.

Lauwers¹⁰¹ extirpated the carotid body in a series of 10 cases of epilepsy. These patients, who had been subject to frequent seizures, have been followed for more than a year. In 2 cases removal of the corpuscle sufficed to cause cessation of all seizures. The removal of the two corpuscles sufficed in 2 others. In the other 6 only small doses of antispasmodics, luminal, etc.) were necessary to keep the fits in check.

There is much literature on the subject of Leriche's sympathectomy for various lesions, and opinions in regard to its value vary greatly. The operation is not without concomitant danger. Caporale's¹⁰² experiments on animals showed that periureteral sympathectomy had very serious functional and degenerative results. On this account operations on the ureter should seldom be performed, and during gynecologic operations great care should be taken in the isolation of the ureter.

Adson and Brown,¹⁰³ who have been pioneers in sympathetic ganglionectomy and trunk nerve resection in the treatment of vasospastic disease, report good results from this operation in some cases of Buerger's disease and in cases of scleroderma; also in cases of chronic arthritis. Flotow¹⁰⁴ reports 14 cases of sympathetic ganglionectomy for polyarthritis and other conditions (Buerger's disease, etc.). He has found the operation enormously beneficial and believes it has immense possibilities.

Leinati¹⁰⁵ by experiments on animals found that large losses of nerve could be replaced with dog tendon. Anatomic results were good but functional results poor.

Davis and Groen¹⁰⁶ think that electrosurgical methods are very advantageous in neurosurgery—especially in the removal of meningiomas and gliomas. Its use is limited to cases in which local anesthesia is admissible.

Surgical Anesthesia

Nitzescu¹⁰⁷ recommends injections of ethyl alcohol associated with morphine as a general anesthetic. Animal experimentation shows it is feasible.

Wichniewsky¹⁰⁸ describes his method of local anesthesia in abdominal operation. This consists in inducing novocaine anesthesia in the various anatomic layers of the operative field. Large serpentine anastomosing infiltrations are formed which block the nerve plexuses by direct contact and pressure rather than by diffusion. This method, the author says, has all the advantages of splanchnic anesthesia without its disadvantages. Gell-

horn¹⁰⁹ describes the technic of local vaginal anesthesia with novocaine which he did in 82 cases with only 1 operative death. By the greater safety thus obtained the indications for vaginal hysterectomy especially are extended.

A good deal of recent anesthetic literature has been devoted to preanesthesia, especially with barbituric acid derivatives, as a means of dissipating patients' fear of anesthesia and operation, as well as shock. It is not considered now sufficient to banish the pain of operation, but the natural dread of the patient can be overcome and he may be rendered oblivious to many of the immediate postoperative discomforts. Brown¹¹⁰, Mason and Baker¹¹¹, and Ramsay and Little¹¹², with several others, write of the advantages of Sodium Amytal in this regard; Fitch, Waters and Tatum¹¹³ point to the superiority of Embutal; Bloomfield and associates¹¹⁴, as well as White and Kreiselman¹¹⁵, praise Avertin.

In some cases these agents may suffice as general anesthetics, and Mikula obtained sufficient anesthesia for operation in 72 per cent of 261 cases. But, generally, some supplementing by ether or other general anesthetic is necessary to convert this preanesthesia into surgical anesthesia.

Surgical Diagnostic Aids and Tests

Several articles appear in the literature on the value of the new intravenous injection method of urography by Uroselectan. Kretschmer¹¹⁶, Roth and Wright¹¹⁷, and Wolbarst and Hirsch¹²⁰ have written eulogistically of this procedure which may to a great extent obviate the older methods of cystography and pyelography. Uroselectan is said to be excreted to the extent of 90 per cent through the genito-urinary tract.

In regard to cholecystography, much controversy has existed in regard to the method of administration, whether oral or intravenous, of dyes for the roentgenologic determination of liver function. The authors who use sodium phenoltetra-iodophthalein exclusively believe that the intravenous method is superior because it introduces a definite quantity of the dye into the circulation and thus gives superior cholecystograms. This subject is especially covered by Waters and King¹²¹. Lipiodol injections have been employed by Ginzburg and Benjamin¹²² in the study of postoperative biliary fistula and they think that this procedure is safe and simple. Leibovici¹²³ points out the advantages of lipiodol injection as a method of arteriography in cases of gangrene of the lower limbs and thinks that this means of study may avoid a useless amputation. The advantages of lipiodol injections in spinal surgery and elsewhere was dealt with in previous reviews.

Aschner and Berck¹²⁴ write on the possibilities of the gastrophotor as a means of obtaining direct photographs of stomach conditions. They give numerous photographic illustrations but there is not as yet much clinical experience of this method.

Linton¹²⁵ shows that a study of the rate of sedimentation of the blood is a reliable index of the hemorrhagic tendency in obstructive jaundice. The test is of value to surgeons because patients with a slow rate are likely to bleed post-operatively.

Miscellaneous

Regarding infections through surgical wounds, Walker¹²⁶ states that the surgical mask does not always protect the operated patient against infection. Seven different types of masks were tested, by having the wearer speak in front of an open Petri dish, and subsequent incubation showed that none were germ proof. A mask which proved satisfactory consisted of a piece of rubber 6 inches square between two pieces of gauze 10 inches square. The edges of the gauze are turned in and

stitched on three sides. Marcuse¹²⁷, after débridement, treats infected wounds with moist dressings of 25 per cent sulphate of magnesium which causes a rapid exudation of pus. The mortality of gangrenous erysipelas fell under this treatment from 41 to 15 per cent. Hartwell¹²⁸ in a histologic study of the healing of surgical wounds finds that the chief causes of delayed epithelial healing are the existence of a supporting wound surface unsuitable for the progression of epithelial cells, and rapid cornification of the cells of the membrane due to an inimical chemical or physical environment. These conditions are accentuated in infected wounds.

Bernhard¹²⁹ draws attention to the significance of white bile for surgical operations. The presence of white bile is unquestionably a factor of bad prognosis. In the Giesen Clinic while the global mortality of choledocotomy has been 9.4 per cent, this figure reaches 22 per cent when white bile is observed; similarly with other operations.

Von Bramann¹³⁰ reports the direct application of the thermocautery following incision in cases of phlegmonous abscesses and other local infections. One hundred and two (102) cases were so treated and the author considers the method very favorable as eliminating tamponade, drainage and frequent dressings.

Albee and Patterson¹³¹ write on the importance of d'Herelle's bacteriophage in surgery. They discuss Orr's method of allowing a wound to granulate in the presence of its own exudates and think that the bacteriophage plays a part here. The presence of bacteriophage in wound secretions indicates a potentiality for healing; it is not dissipated by methods of dressing and infecting organisms are reduced in virility.

Berceanu, Slatina and Albulasca¹³² point out the value of leukocytosis with fever and azotemia as indicative of a favorable prognosis following surgical operations.

MacFee and Baldridge¹³³ advocate massive intravenous infusions of normal salt solution with or without the addition of glucose for the treatment of shock. They have administered up to 8,000 cc. at a single injection and they claim that such large amounts may be given without danger.

Gottesman, Perla and Ziegler¹³⁴, from a study of the effect of electrocautery incisions in the skin and organs of normal adult albino rats, found that the electrocautery incision produces extensive necrosis which acts as a foreign body with a resulting foreign body giant cell reaction. The promiscuous use of the electrocautery is to be discouraged.

Payr¹³⁵ points to the great increase in fatal postoperative thrombosis and embolism during recent years. He points particularly to the rôle played by existing varices as a cause of postoperative thromboses and he systematically extirpates them 8 to 10 days before the principal operation. In regard to the surgical treatment of pulmonary embolism, Nystrom¹³⁶ reviewing his own work and reports in the literature thinks that, however encouraging the results may have been during the last few years with Trendelenburg's operation, it seems that only in rare cases will it be possible to save a patient otherwise condemned because of pulmonary embolism. It is on prevention of embolism that hope must be placed. Braithwaite¹³⁷ has designed a special gymnastic apparatus to prevent postoperative thrombosis following abdominal surgery. The underlying idea is to prevent stagnation of blood, especially in the pelvis and lower part of abdomen. Walters¹³⁸ states that the use of a regimen directed toward increasing the rate of metabolism, of blood pressure and of blood flow, has reduced the mortality of post-surgical embolism in the Mayo Clinic from 0.34 per cent to less than 0.09 per cent.

Douglas¹³⁹ describes a new "sieve" skin graft for covering large skin defects. The graft is perforated with a large number of round openings, which provide constant drainage of the entire extent, lessening or obviating infection. Haas¹⁴⁰ in a clinical and microscopical study proved that transplanted fascia grafts will unite firmly with muscle.

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(Concluded on page 32)

Urology in 1930

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The year 1930 like all other periods has seen much fine work done and left on the records as partial or complete, permanent or temporary progress. The following are valuable studies in diagnosis, renal efficiency, infections, ureteral and renal lesions, gonorrhea, carcinoma, and general medicine in urology. Perhaps the most important are intravenous urography, a new classification of nephritis, and the urinary system as allied to the body as a whole.

Very likely each reader will find that review to be most important which incidentally satisfies his own interest. In any circumstance each of the following contributions has its own merits.

Diagnosis and Renal Efficiency.—Studies of kidney function and urinary disease of all kinds have centered about intravenous urography and cinex-camera observations. These methods are altogether too new for either definite opinion or full reliance. Conservatism runs throughout the following studies which will reward careful reading each in itself and all in correlation. The influence of renal resection on function has received a valued investigation, which goes far in answering many questions.

Intravenous Urography.—M. Swick (*Am. Jl. of Surg.*, 8:405, Feb., 1930) began intravenous urography in Germany at the Lichtwitz clinic at Hamburg-Altona, continuing it at the Lichtenberg clinic at Berlin. Selectan-neutral, an iodine-pyridine compound, was proved too toxic. In collaboration with Binz and Raeth, selectan-neutral was modified by reduction of the iodine content and the substitution of the methyl radical, the new preparation being known as uroselectan. This preparation proved to be nontoxic and to give satisfactory roentgenograms of the urinary tract, visualization being dependent on the functional activity of the kidney, *i. e.*, the concentration of the shadow-giving element. For urography uroselectan is given intravenously, dissolved in doubly distilled water, in doses of 33 to 40 grams for an adult. The first x-ray plate is made in fifteen minutes, the second in twenty to thirty minutes, and the third in a similar period after the second. The number of subsequent plates depends on the degree of visualization and the functional activity of the kidney. If the function is poor, repeated roentgenograms should be made at two to four hour intervals. The only reaction noted as a rule after uroselectan injection is a temporary thirst and generalized feeling of warmth, particularly marked in the face and in the bladder region. The author is of the opinion that intravenous urography is indicated whenever ureteral catheterization is dangerous or mechanically impossible; in the presence of bleeding; in children; and in adults who are intolerant of the instrumentation necessary for retrograde pyelography.

E. Beer (*Ann. of Surg.*, 92:761, Oct., 1930) states that the uroselectan for urography has been used at the Mt. Sinai Hospital, New York, under Dr. Swick's direction. Excellent shadows of the urinary tract are obtained in normal cases and in incomplete obstructions, such as hydronephrosis, ureteral and renal calculi, if renal function is adequate. If no shadow is obtained, the kidney is either absent or practically functionless. The interpretation of the roentgenograms taken with uroselectan requires some practice, as their clarity varies with renal

function. Intravenous urography is not intended to supplant retrograde pyelography, but rather to supplement it, and it will, the author believes, reveal many unsuspected lesions in the urinary tract. The intravenous method is of special value in children; in adults intolerant to ureteral catheterization, or where retrograde pyelography is impossible.

H. L. Kretschmer (*Surg. Gyn. and Obst.*, 51:404, Sept., 1930) reports the use of uroselectan for urography in 85 cases. It was well tolerated by both adults and children. The injections did not cause pain in the kidney region or any systemic reaction, such as chills or fever. There was occasionally a feeling of thirst and flushing of the face, which were transitory. Congenital anomalies were well demonstrated. In cases of renal and ureteral calculi the definition of the shadow was some times intensified by the uroselectan and the degree of obstruction of the ureter was clearly demonstrated. The method was of value in the diagnosis of tuberculosis of the kidney, especially when ureteral catheterization was impossible, and also for investigating the opposite kidney in unilateral cases. In some cases of malignant tumor a filling defect was shown, establishing the diagnosis. The best roentgenograms were obtained in cases of hydronephrosis and hydroureter. Where such obstruction is unilateral the affected side stands out more clearly than the normal side, as the uroselectan is being concentrated but not eliminated by the kidney. This method can be used in some cases where retrograde pyelography is contraindicated, and in other cases is valuable as a check on the findings with retrograde pyelography.

In Great Britain, F. Kidd (*Brit. Jl. of Urol.*, 2:47, March, 1930) reported the first use of uroselectan for urography in the early part of 1930. Later (*Lancet*, 2:138, July 19, 1930) he reported his results with uroselectan in 17 selected cases, including 4 cases of calculus, 4 of hydronephrosis, 1 of renal tumor, 3 of tuberculosis, 2 of renal pain of doubtful origin, and 3 of pyelitis. In 11 cases the roentgenograms obtained with uroselectan were satisfactory and of definite diagnostic value; in 3 cases of doubtful significance; and in 3 of no value, leading to an incorrect diagnosis in one of these cases. The cases of stone and of hydronephrosis gave the best x-ray pictures. The author is of the opinion that at present this method should be used chiefly in cases where cystoscopy and ureteral catheterization are difficult, dangerous or impossible, as, when the ureter is obstructed by stone or stricture and in cases of profuse bleeding; or in some instances after cystoscopy and retrograde pyelography have been done, to obtain additional information. With severe infection, pyonephrosis, or large tumors, the kidney excretes uroselectan poorly and may not show in the roentgenogram with uroselectan; where there is considerable back pressure but relatively good function, the kidney shows up better as the uroselectan accumulates above the obstruction. The method may be used to estimate the function value of each kidney, because with good function the shadow appears quickly, shows good density and fades quickly; whereas with poor function it is delayed in appearance, of diminished density or may be entirely absent. Obstruction may delay the appearance of the shadow but increases its density.

Heritage and Ward (*British Medical Journal*, 1:734, Apr. 19, 1930) also report the use of uroselectan for

"excretion urography." The uroselectan was given in amounts of 0.65 gram per kilo body weight, or 40 grams for an adult male, without ill effect. The first roentgenogram was made five to ten minutes after the injection; subsequent roentgenograms at half an hour, one hour, and two hours after the injection. If one kidney was diseased there was loss of density and delayed appearance of the shadow, as compared with the opposite side. In severe degrees of renal impairment, the kidney shadow was absent or was not visualized for six to twenty-four hours. The authors found this method of special value where pyelography by the usual method was difficult or impossible. Cystoscopic pyelography, in their opinion, is the method of choice in the study of mild hematuria, where the origin of the bleeding is to be determined and a distention pyelogram is necessary to exclude early renal tumor. Uroselectan is contra-indicated in cases with latent or manifest uremia; also in cases of hyperthyroidism and where preliminary tests show iodine idiosyncrasy. The authors have used this method in 200 cases without disagreeable sequelae and with satisfactory results. It proved of special value in the study of hydronephrosis.

Pneumopyelography.—P. Chauvin, Empéaire and Esmenard (*Archives des maladies des reins et des organes genito-urinaires*, 4:513, Feb., 1930) describe their method of pneumopyelography. An opaque ureteral catheter is introduced up to the renal pelvis; a catheter of relatively small caliber is used (No. 5 or No. 6). The patient is in the lateral position lying on the side of the normal kidney. The authors have found that this position favors the entrance of the air into the calyces. They have always used atmospheric air for insufflation. A vesical syringe is employed for the insufflation and a Claude manometer with a three-way stop-cock connects this syringe with the ureteral catheter to control the pressure. Air is introduced until the manometer indicates a pressure of 80 cm. (water); and this pressure is maintained while the radiogram is made. At this pressure the procedure is entirely without pain or irritation. The renal pelvis is clearly shown as a transparent area on a darker background—the reverse of the picture with an opaque medium. The ureter is also shown if there is a reflux of air along the catheter. The calyces are clearly demonstrated in 50 per cent of cases if they are normal, and always if they are dilated or contain foreign bodies. This method is useful for the diagnosis of hydronephrosis and localization of renal calculi and tumors. Any stone, although not shown in the ordinary radiogram of the kidney, is sufficiently opaque to be demonstrated as a dark shadow in contrast with the insufflated air. The shape and size of the stone and its location in the renal pelvis or in one of the calyces are clearly shown. Small tumors are shown that do not cause filling defects with pyelography with an opaque medium, and are therefore not demonstrated by the latter method.

Cinex-Camera Studies of the Urinary Tract.—H. A. Jarre and R. E. Cummings (*Jl. of Urol.*, 24:423, Oct., 1930) state that at the Grace Hospital, Detroit, Michigan, a Cinex-Camera has recently been used for the study of the motor functions of the renal pelvis, ureter and bladder. This camera has already proven its value in interpreting the functional activity of the bronchial tree. For pyeloureteral studies with the Cinex-Camera, film bands 5 inches wide are used when only one side is to be examined, and 10 to 12 inches wide when both sides are to be studied. With the ureteral catheter inserted into the kidney pelvis, one exposure is made, then the opaque medium is introduced, the catheter withdrawn, and ten to twelve exposures made immediately in twelve

to fifteen seconds. Further exposures are made thirty to sixty seconds apart, until 20 feet of film have been exposed. Thus a permanent record of the pyeloureteral motor phenomena is secured, showing the cyclic peristalsis and any interference with it, as well as anatomic structure. This method shows a "rather clear cut" differentiation between anatomic and functional strictures and kinks, and also shows the effect of respiration and posture on motor function of the urinary tract. Studies made so far demonstrate the supposed milking action of the calyces, and that they act independently of each other, apparently "milking" out their individual pyramids; also that the pelvis does not contract uniformly and the ureter shows a segmental action. All of these processes are influenced by pressure, both internal and external, and by posture changes. This method, the authors believe, will prove of great value in studying various pathological conditions of the urinary tract and in indicating the best methods of treatment.

Thomas' Index of Elimination.—L. L. Maurer (*Jl. of Urol.*, 24:155, Aug., 1930) reports the use of Thomas' index of elimination as a test of renal function, especially in surgical cases. Thomas used both indigo-carmin and phenolsulphonaphthalein in determining the index of elimination. The author in the series of tests reported used phenolsulphonaphthalein given intravenously for the determination of the index of elimination. Specimens were collected for three twenty-minute periods, and the index determined by dividing the percentage of dye excreted in the first period by that excreted in the third period. The usual quantitative determinations were also made with phenolsulphonaphthalein given intravenously or intramuscularly. In 23 tests on 10 normal individuals the average index of elimination was 4.98, and the quantitative elimination of the dye was normal. In 58 tests on 19 patients with some degree of renal damage, the index of elimination varied from 0 to 3.44. In most cases the index and the results of the quantitative tests agreed fairly well. Thus one patient with an index of 2.56 showed a quantitative output after intramuscular injection of 44.55 per cent, both tests indicating that this patient was a good operative risk. Another patient with an index of 0 showed a quantitative output of 2.47 per cent, very evidently a poor operative risk. On the other hand in 4 patients in this series the index of elimination was below 1, indicating a poor operative risk, or "negative phase" according to Thomas, while the quantitative output of the dye was relatively high. Preliminary treatment brought the index above 1, before operation was attempted, with recovery in each case. Operation when the index was below 1 in these cases, the author believes, would have been disastrous. As the index rose, there was a diminution in blood urea nitrogen and relative improvement in clinical signs. The author concludes that a single determination of the index of elimination will give information in regard to renal function that can be obtained only by repeated quantitative determinations; and also that it is a safer guide in determining kidney function, as in some cases it shows renal insufficiency when this is not indicated by the quantitative test.

Renal Resection and Postoperative Function.—R. H. Herbst and H. J. Polkey (*Surg., Gynec. and Obst.*, 51:213, August, 1930) report an experimental study of renal function after renal resection in dogs. Various methods of section and suture were used in these experiments. The best results were obtained with a V-shaped incision after the capsule was stripped and the through-and-through simple suture advocated by Tuffier. It was found that resection of the kidney resulted in reduction in the size and weight of the kidney and phthalein func-

tion in every case. The greatest reduction in function occurred during the first two weeks after operation; in the following two or three weeks there was some restoration of function but never to normal. The kidney diminished gradually in size and weight after the third week, but in no case did total atrophy or complete loss of function result. Function decreased approximately in proportion to the amount of secreting renal tissue removed, but was relatively greater; with 1/7 to 1/3 of the renal tissue removed, the function was 1/3 to 2/3 of the normal. In no case was the life or health of the experimental animals unfavorably affected, nor was there evidence of compensatory hypertrophy of the opposite kidney. Renal fistula did not occur and postoperative hemorrhage was rare. Late hemorrhage never occurred. From these experiments and a review of the cases of renal resection in man reported in literature, the authors conclude that: renal resection is conservative surgery and is indicated in pathological conditions in the kidney that are localized and benign. It is particularly valuable in cases of renal calculus where the stone or stones occupy one pole of the kidney with dilatation of the calyces or destruction of the parenchyma. In such cases removal of the segment involved will probably give better results than pyelotomy or nephrotomy. In operation on ectopic ureters, resection of the part of the kidney supplying such a ureter is indicated if circulatory conditions permit. With resection some functioning renal tissue is preserved.

Pyelographic Diagnosis of Transparent Calculi.—

K. Weiss (*Zeitsch. f. urol. Chir.*, 29:479, May, 1930) has found that ureteral and renal calculi that are not demonstrable in the ordinary radiogram are shown by pyelography. In the pyelogram such stones appear as filling defects. Such a stone must have reached a certain size in order to be demonstrated by pyelography. Thus a single round calculus of about 3 mm. in diameter will be shown as a definite filling defect in the ureter in a thin patient, while a stone of the same size in the renal pelvis would not be demonstrated. If there are numerous small filling defects, which are definitely separated from each other, the diagnosis of multiple calculi can be made. In some cases the contrast medium can be seen to form "a mantle" around the filling defect caused by the calculus. This appearance the author regards as very characteristic of calculus. When there is a solitary calculus, appearing as a single filling defect, that is not clearly separated from the wall of the pelvis and that does not change in position, the differential diagnosis between calculus and tumor cannot always be made with certainty. Calculi more often show a round or oval filling defect with clearly defined outlines, but the author has found exceptions to this rule. Hydronephrotic dilatation of the calyces, in the presence of a filling defect in the renal pelvis or in the ureter, is an indication that the defect is due to a stone.

Radiography During Operation for Renal Calculus.

—R. J. Willan (*Brit. Med. J.*, 2:552, Oct. 4, 1930) reports that he has made x-ray plates, after exposure of the kidney during operation for renal calculus, as a matter of routine for some years. The first roentgenogram is made to locate as exactly as possible a stone known to be present or to determine whether or not a calculus is present, the presence of which was suspected but not demonstrated in the preoperative radiograms. After removal of any calculus present, a second radiogram is made before the kidney is sutured in order to make sure that no fragment is left behind. This procedure has several advantages. The exact localization of the calculus by the first radiogram makes it possible to remove it through a relatively small incision and with the minimum

damage to the kidney. The second radiogram ensures the removal of every fragment of calculus and diminishes the danger of recurrence, as even the smallest fragment may form the nucleus of a new stone. In making the radiogram, after the kidney is exposed and all bleeding points secured, the film is placed in position in the operative wound so that the kidney lies on it. The film is developed immediately by the technician and is ready for inspection in three to five minutes. The author has found this method preferable to fluoroscopic examination of the kidney during operation.

INFECTIONS.—The rôle of various strains of organisms in urinary tract infections is being studied more and more and naturally more fully understood. The staphylococcus is often regarded as saprophytic but its contribution to serious infections may be very large. One receives the impression from the following study of the staphylococci by Earlam that those from foci outside the urinary tract but colonizing and causing lesions therein are the important strains. This view corresponds with previous studies in Europe and this country of various other urogenital bloodstream infections. The organism at the basis of pyelonephritis is often well nigh impossible of determination yet this goal may be within reach in our knowledge soon. Studies in both these matters follow.

Urea-Splitting Staphylococci in Urinary Tract In-

fections.—M. S. S. Earlam (*Brit. J. of Urol.*, 2:233, Sept., 1930) reports a study of 100 strains of staphylococci from all sources. Of these 36 strains were derived from urinary tract infections, 44 were regarded as contaminations of urine cultures, and 20 were from lesions outside the urinary tract. The staphylococci were regarded as pathogenic for urinary tract infections only when obtained in pure culture from a urine containing pus and in the absence of any other cause for the pyuria, such as tuberculosis. If only a few colonies were obtained from a urine free from pus, they were regarded as contaminations. Of the organisms isolated from the urinary tract infections, 24 strains were classed as *Staphylococcus albus*. Of the total of 36 strains from urinary tract infections, 16, or 44.4 per cent, split urea; of the 44 contaminating strains, 15, or 34.1 per cent, split urea; of the 20 strains from lesions outside the urinary tract, none split urea. Of the 24 strains of *Staphylococcus albus* from urinary tract infections, 12 split urea and 8 of these were strong urea-splitters. Not all the cases of urinary tract infection due to the urea-splitting strains showed phosphaturia or ammoniacal urine. This is due to the fact that if the act of micturition is normal, there is not sufficient time for urea-splitting to take place in the urine; but if there is infravesical obstruction with residual urine in the bladder, the conditions are favorable for the production of ammoniacal fermentation. The author did not find it advisable to change the usual method of treatment for urinary tract infections in cases in which the infection was due to urea-splitting organisms. Rest and copious fluids—including alkaline mixtures—were used in acute cases; local treatment, promotion of free drainage, and in some instances attention to foci of infection in chronic cases, gave satisfactory results in all but one case of encrusted cystitis with massive infection and marked urea-splitting activity, a condition always difficult to treat.

The Colon as a Site of Focal Infection in Genito-Urinary Infections.—F. H. Redewill, J. E. Potter and H. A. Garrison (*Jl. Am. Med. Assc.*, 94:688, March 8, 1930) report a series of 22 cases of genito-urinary infection that were especially resistant to ordinary methods of urological treatment, and in which no foci of infection could be found in the head, throat, chest, gall-bladder or appendix. All of these patients showed definite evidence

of colon stasis, with a high count of gram-negative anaerobes and an unbalanced count of anaerobes and other putrefactive bacteria in the intestinal flora; the presence of histamine and indol in the feces; and in some cases undigested carbohydrates and meat fibers. Of these 22 cases, 5 were pyelitis, 4 cystitis and 13 prostatitis. The patients were under continued urologic treatment, but this alone failed to relieve symptoms. When the colonic condition was treated, together with the urologic treatment, the chronic genitourinary infections cleared up promptly and permanently. In these cases exacerbations of infection in the kidney, bladder and prostate synchronized with the intensity of the putrefactive processes in the colon prior to the institution of treatment, indicating that there are "flare-ups" of migration of the organisms from one organ to the others. These cases the authors regard as definite presumptive evidence that bacteria enter the urinary tract from the colon, evidently by the blood stream; and that in acute and chronic cases of nongonococcal infection of the urinary tract, the colon must be considered as a site of focal infection, and intestinal stasis and the infection treated. The best method of treating the colon condition in these cases, the authors found, was to change the intestinal flora in order to overcome or eradicate the pathogenic organism. This was best accomplished by: (1) diet, adjusted to the individual patient after a careful study of the stools and the type of infection present; (2) colonic irrigations, followed by: (3) implantation of *Bacillus coli* cultures with an equal amount of heated dextrin in the colon per rectum; and (4) the administration of viable potent cultures of acidophilus milk by mouth for three to six weeks followed by (5) the alkaline treatment recommended by Albee (magnesium oxide and calcium lactate, 1 gm. of each three times a day). This article does not mention adequately the fact that of the varieties of the bacillus coli (now nearly a score) many pass through the kidneys as filters usually without lesions until obstruction causes stasis and decomposition. Others seem to be facultative for suppuration, with or without ulceration and stone formation. Such activities may be very marked and constant or recurrent.

Pyelonephritis.—C. P. Mathé (*Jl. of Urol.*, 24:119, Aug., 1930) reviews 369 cases of pyelonephritis under observation at St. Mary's Hospital, San Francisco, Calif., in the past thirteen years. In his study of these cases he has found that diagnosis depends chiefly upon careful urine analysis. The urine of pyelonephritis contains little albumin and few casts, except that large leucocyte casts originating in the tubules may be present in varying numbers. Leucocytes and micro-organisms are abundant. To determine the specific organism causing the infection, stain smears of the urine must be repeatedly made. Cultures cannot always be relied on, as the colon bacillus will often overgrow and overshadow the cocci present. In pyelonephritis the bladder becomes infected causing painful, burning and frequent urination. In the treatment of chronic pyelonephritis, the most important methods are: the eradication of all possible foci of infection; the treatment of obstruction and stasis in the urinary tract; routine drainage and lavage, alternating silver nitrate with the dyes such as mercurochrome, rivanol, neutral acriflavine or acid fuchsin; local immunization by infection of bouillon filtrate of the infecting organism into the renal pelvis. Of 15 cases recently treated by the latter method, 12 were much improved and the urinary infection greatly reduced. Of the entire series of cases, 347 were followed up for a period of several years; of these 62 were entirely relieved of symptoms, 118 greatly improved, 115 moderately improved, 45 not improved; 7 died during the period of observation. Of the 115

cases classed as moderately improved, clinical symptoms were much relieved in most instances, but urinary infection was not cleared up. In 30 of the 45 cases that were not improved by treatment, there was definite stasis in the upper or lower urinary tract; 15 of these cases were operated, 8 for pyonephrosis, 3 for advanced pyelonephritis with stone, 2 for hemorrhagic pyelonephritis and 2 for pyelonephritis with obliteration of the ureter.

Bacteriology of Chronic Prostatitis.—A. C. Nickel (Proc. Staff Meetings of the Mayo Clinic, 5:85, March 26, 1930) reports 3,500 cultures from prostate glands and seminal vesicles in cases of chronic prostatitis and seminal vesiculitis. No attempt was made to keep the cultures from the prostate and the vesicles separate. Of the 3,500 cultures, 2,380, 68 per cent., were positive. Of the positive cultures 38 per cent. contained streptococci and 20 per cent. showed practically pure cultures; 54 per cent. contained staphylococci and 34 per cent. these organisms in pure culture; 24 per cent. contained bacilli, 13 per cent. in pure culture; 9 per cent. of the cultures showed various miscellaneous organisms. On injection of these various organisms into rabbits, it was found that the heterologous group of organisms did not cause gross lesions. The grampositive bacilli were nonpathogenic; the gramnegative bacilli were pathogenic but did not show any tendency to elective localization. The staphylococci as a rule were nonpathogenic, but strains isolated from patients with dermatitis, arthritis and myositis associated with prostatitis were found to be of etiological significance. The experimental findings indicated that all the streptococci found in cultures from the prostate and vesicles were not of etiological significance. Short-chained or hemolytic streptococci found in large numbers more usually showed localizing tendencies, indicating that the prostate and vesicles were a focus of infection. Cultures from patients without systemic disease did not show localizing tendencies, even though the prostate was definitely diseased and the patient had referred pain, which was relieved by prostatic massage. The findings taken as a whole indicate that the prostate gland is not a primary focus of infection as frequently as other parts of the body such as teeth or tonsils; and that when it is a focus it is usually a secondary focus. However, infected prostates and vesicles should be considered as possible foci of infection until definitely proved not to be such.

Bacteriophage in Infections of the Urinary Tract.—A. P. Krueger, H. K. Faber and E. W. Schultz (*Jl. Urol.*, 23:397, April, 1930) report a study of 89 cases of acute and chronic urinary tract infection with reference to the value of bacteriophage as a therapeutic agent. In each case, it was first determined whether the organism found to be responsible for the urinary tract infection was lysed by any of the several races of bacteriophage in the authors' possession (at Stanford University, California). If complete lysis occurred, the lysed cultures were filtered and the filtrate used in the treatment of the patient. In case of only partial lysis, the virulence of the bacteriophage was increased until complete lysis occurred, by being added to freshly prepared cultures of the organism. Of 12 cases of acute urinary tract infection, only one, or 8 per cent., was due to a strain of *Bacillus coli* resistant to the available bacteriophages. But in 77 cases of chronic urinary infection there were 42 cases, or 54 per cent., in which the infecting organism was resistant to all the available bacteriophages. Of 35 chronic cases infected with organisms that were completely lysed by one or more races of bacteriophage, 16 were treated with pooled bacteriophage suspensions, and 19 with an individual bacteriophage "matched" against the

infecting organism. In both groups the bacteriophage suspensions used were found to be active against the infecting organism. The suspensions were given by subcutaneous injection and by instillation into the bladder and renal pelvis. Of the 16 cases given pooled suspensions, prompt cure occurred in 3 cases, slow recovery in 11 cases, and 2 failed to show any response to treatment. Of 19 patients treated with a "matched" bacteriophage, only one had a prompt recovery, 14 had a gradual recovery and 4 showed no response. Thus out of a total of 35 cases treated with bacteriophage, only 4 showed an immediate and striking response; 25 showed a gradual improvement and ultimate recovery not clearly attributable to the bacteriophage; and 6 showed no response to the treatment. The bacteriophage treatment, in the authors' experience, did not give the brilliant results reported by several other investigators.

URETERS AND KIDNEY.—Artificial stricture of the ureter has contributed definite proofs of its proximal effects. Thus another element is added to our knowledge. A new classification of Bright's disease of the kidneys has been detailed. Blood transfusions for anemia in nephritis and tuberculosis of the kidney and nephrosis are in the records of the year.

Ureteral Stricture.—V. Vermooten and B. C. Wheeler (*Jl. of Urol.*, 24:269, Sept. 1930) report an experimental study of ureteral strictures in dogs and rabbits, with reference to the changes in the ureter above the point of obstruction. Partial obstruction was produced in one ureter in each of the experimental animals by loosely tying a silk ligature around it. The rabbits used in the experiments were killed in six weeks, the dogs within two to five months, and the ureters studied grossly and microscopically. In all cases the ureter was dilated above the point of obstruction, as would naturally be expected. It was also lengthened as compared with the normal unobstructed ureter in the same animal and showed varying degrees of tortuosity, which in some cases was sufficient to produce definite kinking. Tortuosity and kinking were apparently due to the fact that the blood vessels running with the ureter did not lengthen proportionately with the latter. Microscopic examination of sections from the ureter above the point of obstruction showed a marked increase in the muscle in proportion to epithelium and connective tissue. This was true whether the total thickness of the ureteral wall was greater or less than normal. The individual muscle fibres were also larger than normal. The muscular tissue of the ureteral wall in the area above the obstruction, therefore, showed both hypertrophy and hyperplasia. The elastic tissue was not increased.

Ureteral Calculi.—C. B. Squires (*Jl. of Urol.*, 24:461, Nov. 1930) reports 606 cases of ureteral calculi treated at the Crowell Clinic of Charlotte, N. C., since 1915, when the procedure of removal by cystoscopic manipulation described by A. J. Crowell was adopted. In 528 of these 606 cases, or 87.13 per cent., the stone was recovered by cystoscopic manipulation. In 22 cases it was not recovered but the stone passed following treatment in some instances and in others the patient is still under treatment. In 44 cases the stone was removed by open operation and in 12 other cases open operation was advised, but the patients did not return to the Clinic to have this operation done. The method of removal, as described by Crowell, includes the introduction of a 2 per cent. solution of novocaine into the ureter or kidney pelvis, which is allowed to remain *in situ* for twenty minutes and then drained off. As the ureteral catheter is withdrawn, sterile mineral oil is injected. In the earlier cases in this series, patients were treated intensively and hospitalized; reactions, with chills and fever,

following the ureteral manipulation, were numerous. In the more recent series patients have been treated at longer intervals, and the catheter is not allowed to remain *in situ* so long as formerly and often it is left in place only a few hours. Not unless there is impaction with obstruction and pelvic retention is it left in place over twenty-four hours. With this method reactions rarely occur, and results are equally good, as in the last series of 100 cases the stone was recovered by the cystoscopic manipulation in 90 cases.

Classification of Bright's Disease.—D. S. Russell (*Brit. Jl. of Urol.*, 2:219, Sept. 1930) proposes a new classification of nephritis based upon the autopsies on patients on whom renal function tests had been done at the London Hospital (England) in 1920 to 1927.

The suggested classification is as follows:

HISTOLOGICAL	CLINICAL
I. Pure or primary ischemic nephritis	Primary arteriosclerotic nephritis
II. Toxic nephritis	
(1) Nephritis mitis in early stage	Subacute hydropigenous nephritis
Nephritis mitis in intermediate stage	
(2) Nephritis acris in early stage	Acute nephritis
Nephritis acris in intermediate stage	Subacute azotemic nephritis
Nephritis acris in chronic stage	Chronic azotemic nephritis
(3) Nephritis repens	Insidious chronic azotemic nephritis

Ischemic nephritis is a slow infarction of parts of the kidney due to degeneration of the arteries that supply these parts. The characteristic glomerular lesion is sclerotic thickening of the basement membrane of Bowman's capsule; the tubular system in continuity with the affected glomerulus undergoes atrophy; and this is accompanied by a sclerosis of the interstitial tissue. This type of nephritis is associated with high blood pressure, generalized arteriosclerosis, and cardiac failure; there is less evidence of renal insufficiency than in true Bright's disease with lesions of similar extent. The term toxic nephritis has been applied to true Bright's disease because the histological changes resemble those known to be produced by bacterial and other toxins in all tissues. Of the various types of Bright's disease, nephritis mitis shows the most marked changes in the tubules, which show albuminous degeneration and deposition of doubly refractive lipid in the cytoplasm. In the early stage the glomeruli are little affected. Later there is focal necrosis (hyaline degeneration of the tuft) in the glomeruli with adhesive glomerulitis (adhesion between the affected part of the tuft and the Bowman's capsule). Clinically this form of nephritis occurs in children and young adults and is characterized by edema and albuminuria without nitrogen retention (the nephrosis of Volhard and Fahr). Nephritis acris is characterized by a higher grade of inflammatory reaction. In the early stage there is a universal proliferative glomerulitis (proliferation of the endothelial cells of the tuft) and albuminous degeneration of the epithelium of the tubules, which frequently has progressed to hyaline degeneration. In the intermediate stage there is an active formation of granulation tissue beginning around the glomeruli and extending through the cortex. The final stage is the sclerosing stage with a general increase in the density of the fibers in the granulation tissue, and the development of arterial hypertrophy. This type of nephritis is clinically characterized by nitrogen retention, an azotemic nephritis. Nephritis repens differs from nephritis acris proper in that the inflammatory reaction is at first relatively focal

in distribution and its extension is much slower. One type of nephritis repens shows a proliferative glomerulitis and a reticular distribution of the inflammatory reaction in the interstitial tissue. A second type shows a predominant glomerular lesion of the proliferative type with lipid in the interstitial tissue. A third type shows a maximal destruction of the renal parenchyma and marked reduction in the size of the kidney; histologically the changes resemble those of the second type, but the intensity of the inflammatory reaction is less and its duration apparently greater. The fourth type is characterized by the least intense inflammatory reaction and the most focal destruction of the renal elements, with focal necrosis and adhesive glomerulitis as the predominant glomerular lesions, and many of the glomeruli normal.

Tuberculosis of the Kidney.—H. L. Kretschmer (*Amer. J. of Sur.*, n.s. 9:221, Aug. 1930) presents an analysis of 221 cases of renal tuberculosis. In this series, there were 42 who had had some previous operation done for tuberculous disease. In 18 of these cases the operation was on the genito-urinary tract, chiefly for tuberculosis of the epididymis. More than half the patients, 56 per cent., were between twenty and thirty-nine years of age. There were 41 cases, or 19.3 per cent., in which the condition was proved to be bilateral, but this, the author is convinced, represents a minimum incidence of bilateral lesions. He has found that it is "relatively easy" to miss a small focus of tuberculosis in one kidney when the other is evidently tuberculous. In such cases a pyelogram should be made, as this is of more value in detecting an early lesion than the study of renal function. It is his conviction that with improved methods of diagnosis there will be an increasing number of cases of bilateral renal tuberculosis found in any given series. In 180 cases in which a physical and Roentgen-ray examination was made to determine the presence of pulmonary lesions, some involvement of the lungs was found in 35.5 per cent., but in many cases the lesions were healed. The most frequent urinary symptom in these cases was frequency of urination in 184 cases. Nocturia was present in 166 cases and hematuria in 107 cases. Pus was present in the urine in 201 cases, or 90.0 per cent. Tubercle bacilli were demonstrated in the urine in 194 cases, or 87.7 per cent. In the cases where tubercle bacilli were not demonstrated, diagnosis was made by the X-rays in 7 cases, which showed healed tuberculosis or areas of calcification; and by the clinical findings in 20 cases, which were confirmed at operation or autopsy.

Treatment of Renal Tuberculosis.—A. M. Crance (*Arch. of Phys. Ther.*, 11:222, May 1930) in his study of renal tuberculosis has found that it is not as a rule associated with tuberculous lesions elsewhere in the body. At tuberculosis sanatoria, the incidence of renal tuberculosis in association with pulmonary tuberculosis is reported as from $\frac{1}{2}$ of 1 per cent. to 2 per cent., averaging about 1 per cent. The author is of the opinion that the ingestion of raw milk is usually the source of infection in renal tuberculosis. Suggestive symptoms of renal tuberculosis are vague lumbar pains, sometimes renal colic, occasional blood in the urine, and pus in the urine. If bladder symptoms are present, the disease is well advanced. Diagnosis can be made definitely only by a thorough urological examination and the demonstration of tubercle bacilli in the urine. The author has found that renal tuberculosis is potentially if not actually bilateral; he does not advocate nephrectomy unless one kidney is completely obstructed and practically a bag of pus and a constant source of infection, while the function of the other kidney is good. Renal tuberculosis should be treated with rest, nourishing food, administration of

cod-liver oil, and regular exposure to the ultraviolet light at least three times a week. The latter he regards as the most important factor in the treatment. For the ultraviolet light treatment, only the quartz tube should be used, which delivers the pure ultraviolet ray, without any of the infrared rays. The use of the sun's rays does not give as good results in renal tuberculosis, because of the presence of the infrared rays and also because of the varying amount of ultraviolet rays in the sunlight at various seasons and in different localities. With the quartz lamp the author has had very satisfactory results in renal tuberculosis.

Lipoid Nephrosis.—H. Moore, W. R. O'Farrell and R. A. Q. O'Meara (*Br. Med. J.*, 2:242, Aug. 16, 1930) report a study of a case of lipoid nephrosis. The patient was a man thirty-four years of age in whom the chief symptom was edema of the legs, lower back, and face. Albumin was abundant in the urine, which also contained hyaline and fatty casts and a few leucocytes, but no red blood cells. X-ray examination of the thorax showed small bilateral basal pleural effusions. The total protein of the blood was low, from 2.2 to 2.5 (normal 6.5 to 8.2), the albumin-globulin ratio reversed. The patient had been on a low protein diet for about a month previous to admission to the hospital. In the hospital he was put on a high protein diet—120 to 140 grams protein, 60 grams fat, carbohydrate not limited, moderate restriction of salt and about 1,200 c.c. of fluid daily. Thyroxin was given for a few days; a profuse diuresis was induced by ammonium chloride by mouth and salyrgan by intramuscular injection. Under this treatment the edema and pleural effusion disappeared and there was marked improvement in general health. The blood cholesterol, which had been high, 600 mg. per 100 c.c., was reduced to 270 mg., and the serum protein was increased to 5.8. There was no urea retention, but somewhat elevated blood pressure and slight changes in the retinal arteries suggested beginning arteriosclerosis, possibly due to involvement of the renal glomeruli. The case was interpreted as one of impure lipoid nephrosis. Doubly refractive lipoid globules were found in abundance, free in the urine, in the casts and in the desquamated renal epithelium. Chemically these lipoids are esters of cholesterol, but not in the pure state, as cholesterol esters are not doubly refractive. This case did not come to autopsy, but from a review of the literature on the pathological changes of lipoid nephrosis, the authors conclude that it is a form of glomerulonephritis or glomerulitis, in which the endothelial cells are increased but the glomerular capillaries only partially obstructed by this increase in the endothelial cells so that tubular atrophy does not occur. The lipid deposited in the renal cells and so excreted in the urine evidently has its origin in the very high cholesterol content of the blood. The cause of cholesterolemia in lipoid nephrosis is not known, but it may be secondary to the great loss of albumin, resulting from the mobilization of fat in an attempt on the part of the body to feed the tissue drained by the constant loss of protein. The authors suggest that the cause of lipoid nephrosis is possibly an infection. In most cases that do not recover, death is due to peritonitis, pneumonia or septicemia. The frequency of pneumococcus peritonitis in these cases as a cause of death is remarkable and suggests the pneumococcus as an etiological factor in the nephrosis.

Nephroptosis.—C. L. Deming (*Jl. of the Am. Med. Ass.*, 95:251, July 26, 1930) reports 74 cases of nephroptosis. The most common symptom in these cases was pain, coming on in sudden attacks often following some quick movement. The pain was usually severe, sharp and localized. Reflex pains in the stomach were common

and caused vomiting without much nausea. Fatigue was a frequent symptom; constipation was common; but only 6 of the 74 patients showed a visceroptosis. Urinary symptoms were present only if there was an associated urinary tract infection, which occurred in 33 per cent. of all the author's cases, and in 48 per cent. of those that were operated. Diagnosis was made by cystoscopic examination followed by pyeloureterography. With the patient in the supine and in the erect positions the exact distance of movement of the kidney may be measured on the film. The author describes an operation which he has used for the treatment of nephroptosis in 23 of the 74 cases in this series. The incision is begun high in the costovertebral angle and brought downward and transversely across halfway between the lower rib and the crest of the ilium. The kidney is approached through the triangle of Petit. The fat is stripped off the kidney and it is delivered into the wound with its vessels and the ureter. The kidney should be placed sufficiently high to remove all the kinks and most of the tortuosities of the ureter. If necessary to place the kidney sufficiently high, the right lobe of the liver should be freed by inserting the hand under the lobe. The kidney is placed so that the lower pole lies opposite the last rib, and the upper pole is carried medially and the lower pole outward in order to give dependent drainage to the lower calyx. The kidney is held in this position, and a series of interrupted mattress chromic gut sutures (number 00) are placed through the perirenal fascia and peritoneum to the quadratus muscle so as to form a "basket sling" for the kidney. A series of five to eight sutures is necessary. Care should be taken not to include any nerves in the sutures. The row of sutures is reinforced by bringing up all the extraperitoneal fat and suturing it with two or three mattress sutures to the quadratus muscle below the other line of sutures. This acts as a support and fills the space previously occupied by the kidney. The wound is closed in layers without drainage. This operation does not in any way injure the kidney or its capsule, it utilizes all the supporting structures and places the kidney in an anatomically correct position. Of the 23 cases operated by this method, all but one were completely relieved of symptoms (95 per cent. cures), and this one was definitely improved but some infection persisted. In 6 cases the infection present cleared up promptly, in 2 cases more gradually. The author operated only the patients who were completely incapacitated. In cases of nephroptosis without symptoms no treatment is necessary. Many cases respond to conservative treatment, such as dilation of the ureter (in cases with ureteral kinks) or the wearing of kidney belts. Cases with infection and others not improving with conservative treatment should be operated, unless a major operation is definitely contraindicated.

Unusual Types of Renal Lithiasis.—W. F. Braasch (*Jl. of Urol.*, 23:1, Jan, 1930) discusses various unusual types of renal lithiasis observed at the Mayo Clinic. He notes first that there have been 9 cases in which the patient simulated the symptoms of renal colic, and in several instances produced a stone or stones after the colic, which superficially resembled a renal stone. Eight of these patients were women and some of them inserted the stones in the vagina so that they would be passed with the urine. Three of these patients were morphine addicts and simulated the attacks of colic in order to obtain the drug. The author suggests the term "hysterical lithiasis" for this condition. He believes that some patients who claim to pass calculi at frequent intervals will on careful examination be found to be suffering from this type of hysteria. In some cases semicalcified bodies were present in the kidney causing symptoms of renal lithi-

asis, but they were not true calculi. The three types most usually observed were putty-like formations, masses of sandy material, and semiorganized blood clots, all with calcareous deposits. Whether or not these bodies are shown in the roentgenogram depends on the amount of calcification present. They often show an irregular density in various areas. In the pyelogram these semicalcareous bodies appeared as filling defects, and in several cases were diagnosed as tumors. In several cases deposits of sandy material were present with these semicalcareous bodies. The blood clots with calcareous deposits were sometimes found in conjunction with renal stones that have caused hematuria, but whether they ever become entirely calcified so as to form an actual stone is open to question. Another unusual type of renal calculus is that due to *Proteus ammoniae* infection. This infection usually causes "incrusted cystitis," but some cases of renal stone with *Proteus ammoniae* infection and alkaline urine have been observed. These stones are somewhat less dense in the radiogram than the usual renal calculus and show a rapid increase in size. After the removal of such stones, the renal pelvis should be lavaged with solutions of silver nitrate and the urine kept as acid as possible. In some cases a stone is found encysted in the renal cortex a short distance beyond the calyx. In some cases such stones apparently form at the end of a minor calyx and the surrounding tissues undergo cystic degeneration until the stone is cut off from the rest of the calyx. In other cases the cyst formation is apparently primary and the stone occurs secondarily. The shadow of such a stone often appears in the roentgenogram as extrarenal, and may be difficult to identify even with pyelography. Sometimes, however, in the pyelogram there may be a narrow isthmus connecting the adjacent minor calyx and the shadow of the stone with an apparent increase in the size of the latter and changes in its outline resulting from the surrounding pyelographic medium. When the stone appears as extrarenal, secondary inflammatory changes in the calyces and the pelvis may indicate its true nature, but in some cases the correct diagnosis cannot be made by urography. In doubtful cases the author recently employed pyeloscopy. Nephrolithotomy is usually necessary for the removal of these stones.

Operation Without Suture on Renal Pelvis and Ureter.—S. Perlman (*Zeitsch. Urol.*, 24:530, July, 1930) states that he has recently operated for renal and ureteral stone without suture of the incision in the renal pelvis or ureter. He reports 27 pyelotomies and 15 ureterotomies by this method. The size of the stones removed varied, as did also the character of their surface. Some were smooth and others rough or branched. The wound was drained by two tampons. Drainage tubes were not used. Any obstruction to the free passage of urine to the bladder was removed, a ureteral catheter being used if necessary. All the pyelotomies were uncomplicated, the wound healing well without fistula formation. In most cases the wound healed rapidly, patients being out of bed in about fourteen days and discharged from the hospital in twenty to twenty-one days. In one case in which a ureterotomy was done, an abscess formed. After drainage of this abscess, healing was rapid. The renal pelvis and ureter evidently have a marked power of regeneration, and surgical wounds in these organs left to themselves heal rapidly.

BLADDER, URETHRA AND PROSTATE.—The notable contributions concern vesical lithiasis and obstruction, tuberculous ulceration as a nonoperative lesion and prostatic abscess and calculi in all their ordinary phases.

Bladder Stone and Residual Urine.—R. Chwalla (*Zeitsch. Urol. Chir.*, 30:84, June 1930) presents a study

of 223 cases of bladder stone with special reference to the presence of urinary stasis and residual urine. Of the 223 patients 202 were men and 21 women. In 11 of the male patients the bladder stone had formed around a ligature or a foreign body. Of the 191 cases in which the stone was of the primary type, 144, or 75 per cent., had prostatic hypertrophy; 18, or 9.4 per cent., had sphincter disturbances; 5, or 2.6 per cent., ureteral stricture; 2, or 1.4 per cent., prostatic carcinoma; and 1 tuberculosis of the prostate; in 7, or 3.7 per cent., there was urinary retention probably due to sphincter disturbances. Of the 202 male patients with bladder stone, only 17, or 8.5 per cent., were entirely free from residual urine; 91, or 45 per cent., had incomplete urinary retention with residual urine up to 500 c.c.; 21 of these patients had residual urine of over 200 c.c. In 42 cases there was either acute complete urinary retention at the time of admission or a chronic distention of the bladder (ischuria paradoxa). The more extreme degrees of urinary stasis and residual urine were associated with the smaller stones, not with the large stones. It was found also that if the stone caused increased frequency of urination, the bladder was usually fairly well emptied; in such cases the stone was relatively large, and the frequency of urination and increased activity of the sphincter were apparently due to irritation by the stone. Infection was usually associated with the calculus; of the 223 cases of bladder stone, only 35, or 15.7 per cent., had sterile, pus-free urine. Among 37 patients followed up two months to eleven years after removal of the stone, 12 had a recurrence; of these 12 patients, 4 had sphincter disturbances, and 8 prostatic hypertrophy. Of the latter group a prostatectomy had been done in but one instance. The author concludes from these studies that urinary stasis is an important factor in the production of stone formation in the bladder and that, in operation for bladder stone, the cause of obstruction should also be removed if possible. Especially in cases with prostatic hypertrophy a prostatectomy should be done.

Posterior Vesical Neck Obstruction.—A. E. Bothe (*Ann. of Surg.*, 92:294, Aug., 1930) presents an analysis and pathological study of 50 cases of vesical neck obstruction. The symptoms in these 50 cases were similar to those of prostatic hypertrophy, being chiefly frequency of urination, nocturia, burning on urination and urgency. Cystoscopic examination showed definite posterior vesical neck elevation and frequently various degrees of lateral lobe enlargement and trabeculation. In 3 cases there was no record of the cystoscopic appearance of the vesical neck; in 9 cases there was median bar enlargement and in 38 cases median and lateral enlargement. A study of the histological sections of tissues removed for relief of the vesical neck obstruction showed four types of pathological change. In the first group, the tissue was atrophic, sclerotic and granular with no evidence of hypertrophy. In the second group, the glandular tissue alone was hypertrophied; and made up of varying sized acini in a loose supporting tissue. From the location of this hypertrophied tissue it evidently represented hypertrophy of the Albarran or subcervical group of glands. In the third group, the muscle tissue alone was hypertrophied with no glandular hypertrophy. In the fourth group, there was hypertrophied muscle tissue penetrated from below by hypertrophied glandular tissue (hypertrophy of the posterior commissural glands). In 3 cases the obstructing tissue was adenocarcinoma; in one of these the carcinomatous tissue was underneath the transitional epithelium and evidently represented carcinomatous changes in the subcervical glands.

Prostatic Abscess.—C. S. Swan (*Urol. and Cut. Rev.*, 34:730, Nov., 1930) has found that many cases of

prostatic abscess clear up under nonsurgical treatment, and he recommends a trial of this form of treatment in all cases not accompanied by severe general symptoms such as high fever and chills, or by severe urinary symptoms (frequency and tenesmus). The nonsurgical treatment which the author has found most effective consists in hot rectal irrigations given every two hours through a two-way tube and frequent gentle prostatic massage, combined with the forcing of fluids, a bladder sedative such as sandal oil, tincture of hyoscyamus, or both, atropine, the use of a suspensory and rest in bed. Usually three to six days of this treatment will be sufficient to relieve symptoms and make operation unnecessary. This should be followed up by office treatments, as in postoperative cases. This method is often of special value in cases with multiple, small focal abscesses, in which operation is unsatisfactory because of the difficulty of establishing drainage. If such palliative measures fail, operation can be done. Prostatic abscesses, therefore, may be divided into three groups. First, those with a small confluent area quite well localized near the urethra which drain spontaneously or very promptly on proper treatment. Second, those with either a generalized acute prostatitis or multiple small focal abscesses scattered throughout the gland which may either be relieved by the conservative treatment described or develop symptoms necessitating operation. Third, those that show local or general symptoms that are a definite indication for immediate operation.

Calculi of the Prostate.—J. P. Grinda (*Journal d'urologie*, 30:225, Sept., 1930) notes that calculi of the prostatic urethra are always secondary to urinary infection and cause urinary symptoms. Rectal examination is usually negative, the prostate being normal in size and consistency. True prostatic calculi, found in the parenchyma of the gland, also occur. The author reports an illustrative case. These prostatic calculi are either the sequelae of a prostatic abscess that has been drained through the urethra, or they are associated with some other lesion of the prostate, usually chronic prostatitis. The symptoms are those of prostatitis, or may simulate those of early prostatic carcinoma, especially as there may be hematuria as in the author's case. The prostate may feel hard to the touch on rectal examination. On rectal examination multiple calculi are sometimes palpable, giving a characteristic feeling of crepitation, as in the case reported. Sometimes the calculus is felt only as an area of hardness. If there are calculi in the prostatic urethra, urethral examination gives a sensation of friction. Examination of the prostatic secretions shows pus and often the presence of the infecting organism. Often diagnosis can be made only by radiological examination, which shows the prostatic calculi either above or behind the symphysis, according to the direction of the rays. Sometimes the calculi appear as small round shadows in groups, like a bunch of grapes. As prostatic calculi are usually multiple and associated with prostatitis or adenoma, the author is of the opinion that prostatectomy is indicated. As a rule the suprapubic operation is preferable. The removal of the prostate in these cases is often difficult; it may be hard and adherent, and sometimes small. In the author's case the prostate and calculi were removed piecemeal. In aged patients or those with nitrogen retention a perineal prostatectomy may be done. This is preferable when examination of the prostatic secretion shows a streptococcus infection. In the author's case there were a number of calculi in the substance of the gland, some large and some small, composed chiefly of calcium phosphate.

PHYSICAL THERAPY—Electrotherapy and other forms

of physical therapy as means of combatting gonococcal and allied lesions are receiving more and more attention and recognition. It is an error, however, to concentrate on any one modality to the exclusion of the others such as hydrotherapy, phototherapy, galvanism, faradism, sinusoidalism, x-ray, etc. This circumstance arises from the fact that diathermy machines are compact and available for surgical and other treatments. Nevertheless the physician attempting physical measures should possess a complete equipment. Thereafter, he should study his cases and correctly select measures singly or in sequences according to indications for definite pathologic processes. The following report on diathermy in uncomplicated gonococcal urethritis shows ingenuity in constructing moulded electrodes of clay and promising curative results. The notes on cancer of the prostate treated with X-ray are also informative and conservative.

Diathermy Treatment of Gonorrheal Urethritis.—J. Shohan (*Urol. and Cut. Rev.*, 30:525, Aug., 1930) describes a new method of diathermy treatment of gonorrheal urethritis and its complication in the male. A soft, saline, electrically conductive clay is molded to fill in the entire space between a large metal electrode placed under the buttocks and the pubis, the patient lying on his back. The entire penis and scrotum are completely and firmly imbedded in this clay mold; its upper surface is covered with two thicknesses of felt moistened in salt solution. On this a small metal electrode is placed, held in position with a light sand bag. A diathermy machine generating four to six amperes with the patient in the circuit is used. With this method the intraurethral temperature is raised about 8 deg. Fahr. in approximately twenty minutes, then is kept at this level for another forty minutes, making the entire duration of the treatment one hour. The temperature of the clay never approaches the skin tolerance of the patient. The best results are obtained with daily treatments, although treatments may be given at intervals of two or three days or even longer. Of 36 cases treated by this method 9 were treated for such complications of gonorrheal urethritis as prostatitis, epididymitis, vesiculitis, Cowperitis. In these cases symptoms were completely relieved by two to six treatments, usually not more than three treatments. Of the 27 cases of urethritis treated, all but 2 had some degree of posterior urethral infection. All showed definite improvement from the first, and were completely relieved of symptoms, such as burning, dysuria, chordee, etc., in two to six treatments. The discharge was diminished as the symptoms subsided, but further treatment was necessary to clear up the discharge and the infection—from eight to fifteen treatments. In 2 cases the discharge was not entirely cleared up by even more prolonged treatment, one of these cases being complicated by stricture. The author believes that early treatment of gonorrheal urethritis by this method would shorten the duration of infection and prevent complications.

Comment: It is quite doubtful whether or not the average American patient will submit to such messy and drastic treatment. The average dose of high frequency current safe for the testicles is hardly over 600 milliamperes. A machine developing 4 to 6 amperes would give seven to ten times this amount. Even with due allowance for extensive electrodes such a current will be neither wise nor safe. It must never be forgotten that much of the energy of a high frequency current has profound action on such organs as the genitals before heat perceived by the patient or registered by the thermometer appears. The mass-current described is a typographical error beyond much question and cannot be endorsed.

High Frequency Currents in Tuberculosis of the Bladder.—P. Costesco (*Jl. d-urol.*, 30:265, Sept., 1930) notes that not infrequently tuberculous lesions persist in the bladder after the removal of the tuberculous kidney, and in such cases the bladder lesions require treatment in order to relieve the symptoms of frequency and pain. In such cases the author has used the high frequency current employing the Oudin monopolar current according to the Heitz-Boyer's technique first described in 1913. With this current the electrode is brought close to the lesion, but not in direct contact, so that the sparks are short and hot. This method of fulguration the author has found superior to electrocoagulation, especially in tuberculous ulcerations of the bladder, where it is necessary to limit the destructive effects of the high frequency current in order to avoid perforation. A cystoscopic examination is made prior to treatment and the capacity of the bladder determined. For the fulguration treatment, anesthesia is used because of the irritability of the vesical nervous system. Preferably local anesthesia is employed, but in very sensitive patients either general or spinal anesthesia may be used. In many cases a single fulguration treatment is sufficient to heal the vesical lesions and relieve symptoms. In some cases with multiple lesions several treatments are necessary. The interval between treatments should be fifteen days. The fulguration treatments cause no febrile reaction, and very little, if any, bleeding. In some cases of ulceration the lesion is covered by a heavy false membrane after the fulguration treatment. A second treatment should be given in these cases after the usual interval (fifteen days). The cicatrization of the lesions is usually not complete until toward the end of the fourth week, but the relief of symptoms is noted immediately after treatment. Pain and frequency of urination are reduced; the urine becomes free from pus (unless there is secondary infection) and the capacity of the bladder is increased (unless the lesions were very extensive).

X-Ray Treatment in Carcinoma of the Prostate.—G. G. Smith and E. L. Pierson (*Jour. of Urol.* 23:331, March, 1930) report the use of high voltage X-ray therapy in 61 cases of carcinoma of the prostate, but only 25 of these were followed up for a sufficient length of time to estimate the value of the treatment. Eighteen of these patients had pain not due to urinary obstruction, and all of these were relieved of this symptom by the X-ray therapy. In 9 cases there was some diminution in the size of the growth. In a number of cases the progress of the growth appeared to be checked for from one to two years. Eleven patients showed a notable gain in strength and improvement in their general condition. The symptoms due to urinary obstruction were practically never relieved by the X-ray treatment. Where such obstruction was present it was treated by some other method, such as catheterization or the punch or electrome operation, partial prostatectomy or suprapubic drainage. The authors have not found that the X-ray is ever curative in prostatic carcinoma, but in inoperable cases where metastases have occurred, it is a valuable method of palliative treatment in most instances. Three or four series of treatment should be given at intervals of two or three months. The treatments are of the high-voltage type, wave-length about 0.15 angstrom units; distance 50 cm.; filter 0.5 m.m. of copper. The fields were anterior, posterior and perineal. A series consisted of four to six treatments. The dosage was at least an erythema dose. Unfortunately the voltage and amperage are omitted. Six patients received one series; ten patients two series; seven patients three series; and two patients four series.

UROLOGY IN GENERAL MEDICINE—More and more is the definite relation between the body-at-large and its diseases being established with the diseases of particular systems. In a certain sense urology is one of the newer specialties. Hence it follows that this relation is being more and more revealed as the years pass. A few of the preceding reviews belong in part under this subject but have been left otherwise classified as will be obvious within each.

Relation of Urologic Diseases to General Medicine.

—H. G. Beck (*Jour. Urol.*, 23:247, Feb., 1930) presents a study of 284 patients with pathological conditions in the urinary tract who came to a private medical clinic because of symptoms not referred to the urinary tract. The illness was chronic in 90 per cent, with an average duration of six and three-tenths years. Some gave a history of twenty or more years. "Why these patients should have been allowed to suffer for years without having been referred to a urologist is a mystery." The author notes that since a urologic department has been established in the clinic with adequate methods of diagnosis the incidence of cases with urological disorders among patients who did not complain of urological symptoms has "almost trebled." Of the 284 cases studied, there were 161, or 57 per cent, who had gastro-intestinal symptoms; some had mucous colitis; others had symptoms suggesting gastric ulcer. Treatment had been unsatisfactory in these cases until the urologic lesions were discovered and treated. Then the gastro-intestinal symptoms were also much relieved. The urinary tract lesion in these cases was usually a stricture of the ureter, often complicated with pyelitis and hydronephrosis. Treatment consisted in dilatation of the ureter for stricture and pelvic irrigation for pyelitis. There were 82 patients in the series in whom the major symptoms were those of functional mental and nervous disturbances, varying from mild types of neurosis to the severest forms of neurasthenia and psychasthenia. Endocrine manifestations were the next most frequent types. There were 41 cases of hypothyroidism, 12 cases of hypopituitarism and a number of cases with hypoadrenia with definite urologic lesions. There were 11 cases with cardiac symptoms—palpitation, tachycardia, arrhythmia and anginoid attacks. Pelvic symptoms not definitely referred to the urological tract, especially in women, were noted in a number of cases, and abdominal signs and symptoms were often vague and misleading, resulting in frequent errors in diagnosis and many needless operations. In the 284 cases, 207 operations had been done, including 54 tonsillectomies. The appendix had been removed in 58 cases, in 31 of which no relief of symptoms was obtained. Pelvic operations had been done in 48 cases with no relief in 26 of these. Many patients had had several operations. In the 284 cases, 475 urologic lesions were found, 406, or 90 per cent, of these, in the kidney, ureter and bladder. The chief renal lesions were pyelitis and pyelonephritis, in 44 cases; hydronephrosis in 42 cases; nephroptosis in 36 cases; there were also 12 cases of renal calculus, 12 of anomalies of the kidneys and 5 renal neoplasms. In the ureters, there was stricture in 77 cases, hydroureter in 21 cases, kinks in 21 cases, calculi in 9 cases, and ureteral anomalies, usually double ureters, in 11 cases. In the bladder there were 22 cases of trigonitis, 15 cases of cystitis, 10 cases with neoplasm, 3 with calculi, diverticulum and tabetic bladder in 2 cases each, and fistula in one case. There were also 32 cases of prostatic hypertrophy and 20 cases of prostatitis. In 110 cases infected tonsils were either present at the time of examination or there was a history of tonsil infection at the beginning of the illness. In 138 cases there was a previous history of tonsil infection at

the beginning of the illness. In 138 cases there was a previous history of tonsillitis; in 77 cases there were periapical abscesses and in 37 cases chronic pyorrhea alveolaris; 23 cases had paranasal sinus infection. Among acute infectious diseases, 141 patients gave a history of "grippe" or influenza, 45 of typhoid fever, 31 of rheumatic fever, 27 of pneumonia, 21 of malaria, 19 of pleurisy and 3 of chorea. There was a history of syphilis in a fraction less than 3 per cent. In treatment, all discoverable foci of infection were removed; the dietetic, hygienic and medicinal treatment depended on the special symptoms present. The urological conditions were treated as indicated in each case. An analysis of the first 122 cases showed, 34 cured, 46 improved, 27 unimproved, 10 still under treatment, and 5 deaths. All of these patients had previously been treated unsuccessfully and most of them were regarded as incurable.

The Anemia of Renal Disease.—E. Becher (*Münch. med. Wochenschr.*, 77:1657, Sept. 26, 1930) notes that most patients with renal disease show considerable pallor, and a study of the blood in such cases shows that this is due to an anemia. In all types of renal disease the anemia is of a secondary type with a color index below 1. A moderate anemia, with a hemoglobin percentage of 70 per cent, may occur without any definite renal insufficiency. This may result from hematuria or from the basic disease underlying the renal condition. Such an anemia is observed in the second stage of glomerulonephritis and may be due to insufficient blood formation owing to the interference with the circulation of the blood-forming organs resulting from the arterial ischemia that occurs at this stage. There may also be a relative anemia due to hydremia. A more severe anemia occurs with marked renal insufficiency with retention in the blood of nitrogen, indol and other products of intestinal putrefaction. This type of anemia, with hemoglobin about 50 per cent, occurs only when these products of intestinal putrefaction are present in the blood, and its severity is parallel with the degree of their retention. It is probable that these substances cause this anemia by their toxic effect on the hematopoietic organs, as the anemia is one of deficient blood formation with no evidence of increased blood destruction.

Blood Transfusion in Bright's Disease.—H. O. Mosenthal and B. Ashe (*Amer. J. of Med. Sci.* 180:476, Oct. 1930) have used blood transfusion in the treatment of the anemia of Bright's disease for eleven years; in most cases the Unger method of transfusion was used. They found that anuria and other complications of transfusion are rare and of no more frequent occurrence in Bright's disease than in other conditions. They have not observed any rise in blood pressure or any aggravation of uremic symptoms from transfusions of blood in amounts up to 1,000 c.c. Blood transfusion, however, has no favorable effect on the uremic symptoms. The chief indication for the use of blood transfusion in Bright's disease is in the treatment of the secondary anemia, which is characteristic of this condition. Transfusion is especially indicated for the anemia in these cases as it is impossible to use a high protein diet, on account of the renal impairment. The authors have found that if the transfusions are given in the earlier stages of Bright's disease, when neither the renal insufficiency nor the anemia is severe, the blood picture may be brought to normal, the symptoms due to the anemia relieved, and the progressive character of the anemia checked. In the later stages of the disease, the transfusions relieve the anemia and the symptoms due to it for a time, but only temporarily. As a rule several successive blood trans-

(Concluded on page 32)

Review of the More Important Advances in Obstetrics and Gynecology During 1930*

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At no time in the history of organized medicine has there ever been as much discussion—constructive and destructive—directed toward the medical profession as there has been during the year 1930. Every extra-medical organization having the right (we might say the inclination!) to talk about medical problems has done so with a vengeance. The lay press, newspapers and magazines have carried numerous articles and editorials during the year having to do with medical and public health problems. The Committee on the Cost of Medical Care and Mr. Hoover's White House Conference on "Child Health and Protection" have provided much food for thought. All of which goes to show that medicine must take a hand in public health work. No longer can the medical profession keep the public mind pacified by "feeding it archaic advice". Preventive medicine is the order of the day. Prevention calls for education—first of the public and secondly of the medical profession. "Keep well" is the slogan for 1930!

This wave of preventive health measures has had its good effects in obstetrics and gynecology. It has stimulated the physician, both the general practitioner and the specialist, to do better work. It has restricted the activities of the midwife and has handicapped or eliminated the charlatan. Perhaps in no other branch of clinical medicine is it more obligatory to practice prevention, since many of the pathological lesions resulting from pregnancy, childbirth and pelvic disorders in women are largely preventable. Because the public has been enlightened along these lines, it now demands more of the physician. In the future, therefore, it will demand better obstetrics.

Puerperal Sepsis

Puerperal sepsis is still the "bugbear" of every conscientious obstetrician. During the past twenty years we have not materially reduced the incidence of infections coincident with childbirth. Good prenatal care and better obstetrics generally have had their beneficial results in this respect yet the incidence of puerperal sepsis remains far too high. Since we have no specific treatment for this very serious disease, prevention becomes most important. Any method or improved technic, therefore, that will diminish the incidence of puerperal sepsis is highly desirable. Furthermore any germicidal agent that will antisepticize the birth canal without harm to mother or child is most important and desirable. "Asepsis" is a word that every physician doing obstetrics (midwives too!) must keep in mind and having it in mind must practice it with all "honesty and sincerity."

H. W. Mayes and S. Ullian in their paper, "A Bacteriological Study of the Value of Mercurochrome as a Vaginal Antiseptic in Obstetrical Cases" (*Surgery, Gynecology and Obstetrics*, LI, No. 3, Sept. 1930), present some very interesting and instructive facts about the germicidal action of mercurochrome. During

the past twenty years comparatively little attention has been paid to the sterilization of the birth canal. In fact most authorities warn against vaginal antiseptics in labor cases. Contrary to these accepted rules, the authors believe, and have laboratory data in confirmation, that the birth canal can be rendered much more aseptic than has been generally supposed. In their summary and conclusions the authors have the following to say:

"A comparative study of the bacterial flora of the birth canal with and without the use of mercurochrome as a vaginal antiseptic showed that the number of positive cultures from the vagina was reduced from 44 per cent to 6 per cent; from the cervix, 16 per cent to 4 per cent; from the membranes, 32 per cent to 6.4 per cent."

Positive cultures were obtained in 26 different patients and in only one instance was there a positive vaginal and cervical culture in the same patient.

More positive cultures were obtained in primiparae than in multiparae.

Of 30 cultures taken from 11 patients who had only vaginal examinations, one was positive.

The cases with the vaginal and rectal examinations showed the most pathogens.

The number of pathogens in the vaginal cultures increased with the duration of labor, while with the cultures from the cervix and membranes this did not obtain.

With ruptured membranes the positive vaginal cultures increased up to 18 hours of labor, but in 36 cases in labor over 18 hours, only one positive culture was obtained from the vagina and two from the cervix.

In 34 cultures when the membranes were ruptured over 12 hours, one positive pathogen was found.

If the patients were instilled at the time of delivery, 18.18 per cent showed pathogenic organisms in the vaginal cultures, while 52 patients who had the mercurochrome in the vagina less than three hours, were all considered negative.

There were more than twice as many positive cultures obtained in the operative than in the spontaneous deliveries. With the cervical cultures, there were less in the operative.

In a control series of 25 cases in which no mercurochrome was used, seven times as many positive vaginal cultures were obtained, four times as many from the cervix and five times as many from the membranes. The morbidity was three times that of the year 1928.

Nine cultures taken from the interior of the uterus at caesarean section were all negative.

These results undoubtedly prove that mercurochrome does reduce the bacterial content of the birth canal during labor, and even though the membranes are ruptured and labor prolonged, if the mercurochrome is instilled regularly and properly, the number of pathogens apparently does not increase either in the cervix or the membranes.

T. K. Brown of St. Louis, in his paper, "The Incidence of Puerperal Infection Due to Anaerobic Streptococci," has shown conclusively that the anaerobic strep-

* American literature.

tococcus infection plays a very important role in puerperal sepsis. (*American Journal of Obstetrics and Gynecology*, XX, Sept. 1930). Many cases of puerperal infection were encountered in which no causative germ, on repeated bacteriological examination, could be found. There must be a bacterial cause in such cases and hence it was thought that by culturing the uterine contents or the blood under both anaerobic and aerobic conditions better results might be obtained. This was done and it was not long, says the author, before he was convinced that anaerobic streptococci play a major part in puerperal sepsis.

Anaerobic bacteria are almost always those that the patient harbors herself in contradistinction to others that are introduced into the vagina from without. A perfect technic would therefore prevent the introduction of bacteria from without and a suitable germicide would tend to lessen or even totally destroy the bacteria harbored within the vagina. The author has used the following mixture for this purpose:

15 gms. mercurochrome crystals
5 c. c. $\frac{1}{2}$ strength Tr. Iodine
500 c. c. of glycerine.

The author's conclusions follow:

Our experiences with anaerobic streptococcal infections in the puerperium during the last three and one-half years is very similar to that described in the previous report of Schwarz and Dieckman in 1926. Puerperal infections due to ordinary pathogenic organisms in most instances are introduced infections, and infections due to anaerobic streptococci are usually endogenous. In the well organized obstetric clinic, the problem of anaerobic streptococcal infection should be a greater one than infection due to the hemolytic streptococci and other pathogenic organisms. Good technic can practically eliminate hemolytic streptococcal infections, with some exceptions, as the recent epidemic at the Sloane Hospital for Women in New York City indicates. In the present state of our knowledge, anaerobic streptococcal puerperal infections will perhaps be best reduced by using some antiseptic preparation in the vagina at the beginning of and during labor. At the present time we recommend no particular preparation, but hope to determine by experience and experimental work what solution will prove most efficacious. We predict that this subject will be one that will command one of the most important investigations of the existing problems of modern obstetrics.

Time of Ovulation

There has always been much speculation regarding the time of ovulation in the menstrual cycle. Studies of recent corpora lutea have furnished all the available data. Very little is known about the human ovum from just before the time of ovulation until the fertilized ovum has implanted itself in the uterus. For this reason Q. U. Newell, Allan, Pratt and Bland (*American Journal of Obstetrics and Gynecology*, XIX, Feb. 1930, 180) set about to recover the human ovum from the fallopian tube and thus they would be in a position to know more definitely when fertilization of the ovum takes place. This had never before been done in the human although attempts had been made by at least five other investigators but without proven success.

The material for this study was obtained from 90 operations performed at various stages of the menstrual cycle. The greatest number of operations were performed between the 12th and 16th day of the cycle (dated from the 1st day of last period), others ranged from the 1st day to the 25th day. The most suitable

material was obtained at operations performed near the middle of the menstrual cycle.

A technic for recovering the unfertilized ovum from the fallopian tube is described and illustrated. The reviewers believe that this is the most important contribution on this subject that has appeared for many years.

In their summary the authors conclude as follows:

1. More than 90 patients were operated upon and 9 specimens were recovered from the fallopian tubes, 5 of which were successfully sectioned and definitely identified as tubal ova.

2. A method of irrigating the tubes in situ was devised which we believe to be safe and which makes available cases where tubes showed no pathology and therefore were not to be removed. The method is useful to determine the patency of the tubes in cases of obstruction when the abdomen is open and plastic work has been done.

3. In this series of cases the time of ovulation was on, or one or two days before, the fourteenth (morning of the fifteenth) day following the onset of the previous menses.

Cancer

The cause of cancer still remains in the realm of the unknown. For this reason, early diagnosis is the only hope of cure. Metastasis usually means inability to retard the growth and further spread of the disease and hence an untimely death awaits the victim. Until the cause is discovered, the treatment of cancer will remain the enigma it has always been. Clearly then we have a dual duty to perform—viz.—first to educate the public to seek advice regarding cancer at the earliest possible moment, and second, to educate the physician so that he can recognize and properly treat the early stages of cancer. Only by these means can we expect to reduce the frightful morbidity and mortality of cancer.

The American Society for the Control of Cancer is forging ahead with its work of educating the public as regards cancer. Through its various advertising channels, this organization is doing yeoman service throughout our country and Canada and, indeed, throughout the world. Our government—national or state—is doing nothing in the way of financial support in managing this great problem. Until more diagnostic clinics, cancer institutes and hospitals, with all necessary equipment and personnel, are established throughout our country (as has been done in certain European and Scandinavian countries), cancer statistics will not improve. Notwithstanding, let us not restrain our efforts but do what we can until we can do better. Cancer must be conquered—should be our slogan!

Professor E. Zweifel of Munich, Germany (*American Journal of Obstetrics and Gynecology*, XX, Nov. 1930), gives an excellent résumé of the present status of the management of cancer of the cervix uteri, particularly as regards Germany. He tabulates the present methods of treating carcinoma of the cervix and gives the details of surgical and irradiation therapy where used singly and in combination. Operation is more extensively done in Germany than in America, but the question of "operability" is largely responsible for this discrepancy. What one surgeon deems operable another equally competent surgeon might not and vice versa. This is true in every country in the world. Everywhere it is now conceded that irradiation is the only treatment for the advanced case of cancer—the so-called inoperable case. On the other hand, in certain clinics, irradiation is very successfully used for all cases of uterine and cervical carcinoma with equally good results as by surgical means in still other clinics. The combination of irradiation and

surgery accomplishes excellent results. It is certainly conceded by all that post-operative irradiation is highly desirable in all cases as a prophylactic measure.

The author's conclusions are as follows:

1. The methods of treatment for carcinoma of the cervix are:

- a. Surgery.
- b. Irradiation.
- c. Surgery plus irradiation.

2. Radical total extirpation can be carried out either vaginally or abdominally.

3. Either method can be combined with irradiation.

4. Irradiation therapy may be produced by means of X-ray, radium or both.

5. The absolute percentage of cures by

- a. Radical abdominal surgery is 20 per cent.
- b. Radical vaginal surgery is 17 per cent.
- c. Irradiation therapy only is 17.7 per cent.

6. Irradiation may be combined with surgery as pre-operative, post-operative, or pre-operative and post-operative irradiation.

7. It is impossible, at present, to determine which procedure is the best.

8. The combination of irradiation and surgery produces better results than surgery alone.

9. Surgery should never, therefore, be performed without irradiation.

10. The greatest advantage which irradiation possesses is the fact that it is possible to cure a certain percentage of inoperable cases.

11. Irradiation has practically no primary mortality.

Dr. Zweifel concludes by giving the objectives for the future and they may be tabulated about as follows:

1. Better results can be obtained by bettering our methods of diagnosis and improving the technic of the methods of treatment now in vogue.

2. Education of the public as well as physician must be extended to arouse them to the absolute necessity of early diagnosis and treatment.

3. It is the duty and function of the Committees on Cancer Control and Hygiene of the League of Nations to promulgate and disseminate "ways and means" for more successfully combating cancer.

Healy and Cutler, of the Memorial Hospital, New York, in their very excellent paper (*American Journal Obstetrics and Gynecology*, XIX, April 1930), give the results in 100 cases of carcinoma of the body of the uterus. In analysing this group of cases they paid particular attention to two problems, first, the relationship between histologic structure and prognosis, and second, the comparative value of irradiation and operation in the treatment of these tumors.

Following the lead of Mahle of the Mayo Clinic, the authors used the same principles of cellular differentiation as was used by him in a study of 186 cases and after separating adenoacanthoma and adenomyocarcinoma from the main group of tumors, carcinoma of the uterine body was divided into four groups or grades representing four degrees of potential malignancy. They are as follows:

Grade I. Papillary Adenoma Malignum.

Grade II. Adenoma Malignum.

Grade III. Adenocarcinoma.

Grade IV. Diffuse (embryonal anaplastic) carcinoma. There is a short description of the morphological structure of each of these grades, thus making it possible for any pathologist to properly understand and practice this grading. This is pioneer work and bids fair to be of inestimable value in treatment and prognosis.

Their conclusions follow:

"1. Cancer of the body of the uterus is most common

between the ages of fifty and sixty; 25 per cent occur in nulliparae. Vaginal bleeding and discharge are the outstanding clinical symptoms.

"2. Superficial papillary adenoma malignum (Grade I) comprises 14 per cent of the cases, and is the most benign histologic and clinical type. Curettage and adequate intrauterine irradiation followed promptly by high voltage X-ray is the treatment of choice and offers an excellent prognosis in this group.

"3. Adenoma malignum, Grade II, is intermediate in degree of malignancy between Grades I and III, and offers 65 per cent cures by radiation and combined radiation and hysterectomy. Twenty-three per cent of the cases had advanced lesions. The average duration of symptoms was nineteen months.

"4. Adenocarcinoma, Grade III, is a more fatal disease than adenoma malignum, yielding only 18 per cent cures. Forty-six per cent had advanced lesions on admission. The average duration of symptoms was thirteen months.

"5. Diffuse or anaplastic carcinoma, Grade IV, is the most malignant type and the most radiosensitive. It comprises 12 per cent of the entire series. Six patients, several with advanced lesions, are cured by radiation and combined radiation and hysterectomy. These results are highly significant when compared with operative statistics in which no cures in this histologic type by surgery alone have been reported. Hysterectomy alone is, therefore, distinctly contraindicated in this group.

"6. Adneocarcinoma is a more rapidly growing tumor than adenoma malignum, reaching an advanced stage in a shorter time. The difference in prognosis may, therefore, be explained by the difference in degree of malignancy as indicated by rate of growth.

"7. With the exception of the diffuse type (Grade IV), fundus carcinoma is moderately radioresistant; consequently, if radiation is to be relied upon in the complete sterilization of these tumors it must be delivered in an adequate amount.

"8. The results obtained in each histologic group by either method of treatment confirm the validity of a separation based upon histologic structure and demonstrate the practical importance of adopting a suitable method of treatment to each clinical and pathologic type.

"9. The prognosis in cases of fundus carcinoma by partial hysterectomy may be reduced favorably by prompt radiation treatment of the cervical stump. Three out of five patients so treated have remained well over five years.

"10. Inoperable fundus carcinoma, including cases in which the operation offers technical difficulty, is best treated by radiation alone, the results to be expected depending upon the extent of the disease, the radio-sensitivity of the tumor and the adequacy of the radiation. In the highly radio-sensitive type a cure in a small percentage of advanced cases may be expected.

"11. Intrauterine radiation is the method of choice in the treatment of papillary adenoma malignum (Grade I). In the other three histologic types, radiation alone and combined radiation and hysterectomy have yielded approximately similar results.

"12. The combined results in 82 cases of operable carcinoma treated by radiation alone show 58.5 per cent cures. These results compare favorably with the best statistics in the surgical treatment of this disease and demonstrate that the prognosis of fundus carcinoma may be at least as good by radiation as by surgical methods.

"13. The decision between radiation and operation in operable fundus carcinoma must for the present depend upon the circumstances in each individual case taking into consideration such factors as histologic type,

technical operability, stage of disease, general or constitutional and local complications."

Ordinary Everyday Obstetrics

"After all is said and done," the general practitioner and the midwife still confine a majority of our women in their homes. This is not true as regards the well-to-do class of women who know the advantages of expert care in the Class A hospitals, but these are still in the minority. Any method or technic, therefore, that will help the general practitioner or the surgeon doing obstetrics or even the specialist in the every-day obstetric work is good "preventive medicine" and hence should be promulgated.

D. S. Hillis in his paper, "Diagnosis of Contracted Pelvis by Impression Method" (*Surgery, Gynecology and Obstetrics*, LI, Dec. 1930), describes a method for estimating the relative size of the fetal head and the mother's pelvis. "Will this head go through this pelvis?" is the question always to be decided. Pelvic measurements will help decide this question but it will not absolutely settle it. The size of the fetus, particularly its head, must always be considered.

The author has modified an older method (P. Mueller's) for determining the relationship between head and pelvis. It is as follows: With the patient in lithotomy position on a table, not too high, the examining finger in the rectum locates the tips of the ischial spines and notes the relation of the lowest part of the baby's skull to a line drawn between them. The hand on the outside is placed above the breech of the baby and is sunk as deeply as possible toward the mother's spine, the forearm parallel to the long axis of the mother. Pressure is then made on the breech toward the inlet and the descent of the head noted with reference to the inter-spinous line, allowance being made for the thickness of the lower uterine segment, the cervix or caput succedaneum, if present. To avoid traumatism and pain the pressure is begun gradually and after the maximum is reached is slowly released.

If the head cannot be impressed into the spines, an assistant places the palm of one hand flatly over the middle of the baby's back to prevent flexion and the fingers of the other hand placed palmar surface downward above the head over the symphysis press the head downward and backward in the axis of the inlet while the examiner makes pressure on the breech and notes descent with the internal finger.

If the impression fails with the aid of an assistant, a trial is made under a short surgical degree of anaesthesia.

This method has been very helpful, says the author, and he recommends it very highly.

Dystocia due to contraction of the bony pelvis or to disproportion between a normal pelvis and a relatively large child is one of the most important problems in obstetrics. Dr. L. S. McGoogan, Fall River, Mass., reports the results of a study of 471 cases of contracted pelvis and disproportion occurring in the Royal Victoria, Montreal, Maternity Hospital. (*American Journal of Obstetrics and Gynecology*, XX, Sept. 1930) The pelvis and the child were studied in a group of 5,782 cases and of these 471 revealed pelvic contraction or disproportion between pelvis and child, giving an incidence of 8.11 per cent. Of this number, 220 or 46.7 per cent delivered spontaneously, and 251 or 53.3 per cent required some form of operative delivery.

These figures show, therefore, that almost one-half of contracted pelvis and disproportion cases can be delivered per vaginam if only the Doctor can and will make the correct diagnosis and determine or estimate whether

or not "this head will come through this pelvis," and assume an attitude of "watchful waiting," interfering only when definite indications arise.—Ed.

Many extensive tables are interposed and the author has taken a very sane and sound view, as would be expected in this clinic, of the management of this type of obstetric cases.

The author's summary is as follows:

1. There are 471 cases of contracted pelvis or disproportion between the pelvic canal and the child presented and the method of delivery analyzed, 220 patients delivering spontaneously and 251 requiring operative interference.
2. The maternal mortality for the group is 0.42 per cent, both deaths being due to streptococcic septicemia.
3. The fetal mortality of this group is 10.8 per cent, of which one-third were due to intracranial hemorrhage.
4. There is high fetal mortality in version and extraction, 28.5 per cent in the prophylactic operation and 66.6 per cent in the emergency operation.
5. Surgical induction of premature labor gives results which are not inferior to other methods of delivery, the fetal mortality being lower, but the maternal mortality, due to the risk of infection, greater.
6. In 104 cases of cesarean section there was no mother lost and the fetal mortality was only 2.8 per cent.
7. Craniotomy is the method of choice in those patients in whom the child has died in utero, or in which such severe grade of infection is present that cesarean section is contraindicated.

Dr. Chas. B. Reed tells, in a short, concise paper, about his experiences with Avertin, a rather new preparation of tribromethyl-alcohol used per rectum to induce obstetrical anesthesia. (*American Journal of Surgery*, IX, July, 1930). The drug is dissolved in water at 104° F. so as to make a 3 per cent solution. Above this temperature it may decompose, forming toxic substances irritating to the bowel. A fresh solution must be used for each labor.

The drug is rapidly absorbed by the bowel. Its effect begins in about 15 minutes and lasts for 2 hours. The dosage for analgesia ranges from 0.1 to 0.15 gm. per kilogram of body weight, thereby obtaining narcosis instead of analgesia. Excellent results are obtained. There are apparently no objectionable after results. It is perfectly safe in the dosage recommended.

Cyclical Changes in Vaginal Mucous Membranes

Since the epoch-making work of Hitschmann and Adler on the cyclical variations in the uterine mucosa, much progress has been made in our knowledge of the normal physiology of the female generative tract. In 1928, Novak and Everitt demonstrated similar changes in the tubal epithelium which could be observed about two days after the onset of the menstrual period. It has been shown by Schroeder and others that the endometrial changes are dependent upon the ovarian activity. Stockard and Papainicolaou in the rat, and Carl Hartman in the monkey, have described cyclical changes in the vaginal epithelium. The latter work may—undoubtedly will—throw light on the mechanism of menstruation in the human.

All these investigations are most important since there are many phases of menstruation that we do not yet clearly understand.

Dr. S. C. Geist (*Surgery, Gynecology and Obstetrics*, LI, Dec. 1930), who has been much interested in this problem, studied sections of the vaginal mucous membrane. This had been done before (Dierck, 1927) but since other investigators did not agree with the findings and interpretations of Dierck and others, the author

chose to "check up" this work. He studied microscopic sections of the mucous membranes of 80 women, from the age of 28 to 66 years, in their relation to normal uterine and ovarian cycles. Fifteen of these cases were beyond the menopause from 1 to 12 years.

The author concluded that "it must be assumed that while there is a wide divergence of opinion, in general it can be stated that the vaginal mucosa undergoes cyclical variations probably dependent on the presence of an ovarian hormone; that at the present time with the usual histological methods available, it is difficult definitely to accord each picture its proper place in the cycle, and that furthermore, as there are variations in the ovarian and uterine cycle with overlapping and individual differences even in the same patient, so too in the vagina the same variable condition prevails."

Diagnostic Methods in Obstetrics

The positive diagnosis of pregnancy, with the usual diagnostic methods, and particularly during the early stages, is still an impossibility in certain cases. And since such a diagnosis is oftentimes highly desirable, and some times imperative, any procedure or method for determining the positive existence of pregnancy is most important. It becomes more important, furthermore, if such a test is technically simple enough for the average laboratory worker to carry out. Such a test has recently been introduced into this country and is known by the names of two Germans, who, independently of one another, discovered the test—Ascheim and Zondek.

The Ascheim-Zondek test for the existence of pregnancy depends upon the fact that the anterior lobe of the pituitary gland secretes a hormone that is excreted by the kidneys of pregnant women and may, therefore, be found in the urine. (Ascheim—*American Journal of Obstetrics and Gynecology*, XIX, Mar. 1930.)

The voided urine in amounts varying from 0.2 c. c. to 0.4 c. c. is injected into three immature mice. The mice must be immature for it is the action of the pituitary hormone upon the immature ovaries that forms the basis of the test.

One hundred hours are allowed to elapse from the injection of the urine from the suspected case of pregnancy and then the mice are killed and the ovaries examined microscopically. If pregnancy exists there are certain characteristic changes in the microscopic picture of the mouse's ovaries. It is positive in 98 per cent of cases. The only conditions which may give the same findings as pregnancy are hydatidiform mole and chorionepithelioma.

The summary of Dr. Ascheim's paper is as follows:

1. Pregnant women excrete large amounts of hypophyseal hormone with the urine.
2. Injection of urine from a pregnant woman into infantile mice leads to formation of corpora lutea and to hemorrhages in the ovary.
3. This reaction (Ascheim-Zondek test) is positive in 98 per cent of the cases of pregnancy.
4. The technic of the test is described in detail.
5. Demonstration of hypophyseal hormone in the urine is a reliable method for the diagnosis of pregnancy.
6. In ectopic gestation and in abortion the test is positive as long as living fetal tissue is in biologic contact with the blood of the mother.
7. The test has been found strongly positive in hydatidiform mole and in chorionepithelioma.

Dr. A. R. Bacon, in his paper, "A Comparative Study of the Anterior Hypophyses in the Pregnant and Non-pregnant States" (*American Journal of Obstetrics and Gynecology*, March 1930), experimentally attempts to show what relation exists between the hormone content

of pregnant and nonpregnant anterior hypophyses, by the method of implantation into infantile female white mice. He concludes the following:

1. It was found that the pregnant hypophyses were poorer in hormone than the nonpregnant ones; although the hormone content of the pregnant blood is vastly greater.

2. This is possibly explained by a reduced activity brought about by a vicarious hormone production in the decidua and is analogous to the disappearance of female sex hormone from the corpus luteum of pregnancy with the increase of hormone production by the placenta.

Diagnostic Use of X-ray in Obstetrics

The importance of the X-ray as an adjunct in obstetric diagnosis was brought before the profession by Matthews (*American Journal of Obstetrics and Gynecology*, XX, Nov. 1930), in a paper read before the American Gynecological Society. Although long utilized with success by both the internist and the surgeon, the obstetrician has paid little or no attention to the Roentgen ray as a diagnostic adjunct. This was due to several very valid reasons (technical difficulties, etc.) the principal one of which, undoubtedly, was the fear of exposing the fetus to the injurious effects of the X-rays. However, says the author, we now positively know that the exposures required for filming the pregnant uterus are not injurious to the fetus. Any reasonable number of films may be made (4 to 6) without fear of doing harm to the fetus. In 306 pregnant women there were over 600 films made to obtain the data presented in the paper.

The author's conclusions are as follows:

1. A positive roentgenogram of the fetal skeleton is proof of the existence of pregnancy. This may be added as a fourth positive sign of pregnancy and may be obtained as early as the fourteenth to fifteenth week in 15 per cent of the cases, at sixteen to eighteen weeks in 75 per cent of the cases and beyond the eighteenth week 100 per cent of the cases.

2. A positive diagnosis of normal and abnormal pregnancy, including many types of fetal abnormalities, can be made by the roentgen ray, provided the pregnancy is at or beyond the eighteenth week. The farther advanced the pregnancy the more positive the diagnosis.

3. A positive diagnosis of fetal death can be made by roentgen ray, apparently within three or four days after death, provided the pregnancy is at or beyond the sixteenth week.

4. A positive diagnosis of pregnancy complicating fibroids of the uterus can be made by the roentgen ray, provided the duration of the pregnancy is sixteen weeks or more.

5. A positive differential diagnosis between pregnancy and other pelvic tumors (soft myoma, ovarian cysts, etc.) can be made by the roentgen ray, provided the pregnancy is at or beyond the sixteenth week.

6. The filming "dosage" herein recommended is perfectly safe for the fetus.

7. Every patient who is a candidate for cesarean section should have a roentgenogram taken to determine the normality of the child.

8. A positive roentgenogram may be offered in court cases as proof that pregnancy exists.

9. Finally, it is highly desirable that the obstetrician cooperate with the roentgenologist and thereby help to further develop, simplify and popularize a very important adjunct in obstetric diagnosis.

Abnormal Uterine Bleeding Not Due to Cancer

Since the physiology of normal menstruation is somewhat better understood than formerly, although not yet

sufficiently, we are in position to know more about the underlying pathology of abnormal uterine bleeding. Similarly we are in better position as regards treatment for until we know the cause of a given condition we certainly are not in position or even competent to treat it. Fortunately mere operative gynecology is being relegated to the background, except by certain gynecologists and general surgeons who know little or nothing about the physiology and pathology of the female pelvis and the inter-relationship of the endocrine, nervous and digestive systems and hence operate for almost any "symptom complex" referable to the female pelvis.

W. P. Graves says (*American Journal of Obstetrics and Gynecology*, XX, Oct. 1930), "The present-day conception of the etiology of dysfunctional uterine bleeding ascribes it to a disturbance of pelvic physiology, discarding as obsolete the older theories that related it to a local disease of the uterine wall or endometrium." Furthermore, Dr. Graves states that it has taken about 30 years for the evolution of this modern theory and it is now being confirmed in ovarian hormonology. The work of Robert Schroeder published in 1920 formed the basis of the author's investigations and his paper is divided into six parts—viz.—1. A repetition of Schroeder's work (on 18 cases); 2. Observations on 237 cases treated with radium for excessive or untimely bleeding; 3. The relationship of fibroid tumors to dysfunctional bleeding (25 cases); 4. The role played by the cystic ovarian follicles (cases in 2 and 3); 5. Study of the uterine blood in functional metrorrhagia; and finally, 6. The theory of the cause of dysfunctional hemorrhages "assumes a two-fold hormone of the ovary."

The author's summary is as follows:

1. Metrorrhagia (arhythmic dysfunctional uterine bleeding) is associated with complete absence or marked defectiveness of the corpus luteum.

2. The bleeding of metrorrhagia is the result of localized necroses in a dysplastic endometrium.

3. Typical dysfunctional metrorrhagia is almost constantly associated with endometrial dysplasia.

4. Endometrial dysplasia is produced by the abnormal continuation of the unantagonized follicle hormone and is constantly associated with follicle cystosis. A possible influence from the anterior pituitary must be considered.

5. In periodic dysfunctional bleeding both the follicle and corpus luteum hormones are present, but in a state of physiologic imbalance. Gland dysplasia may or may not be present according to the extent of the disturbance.

6. The bleeding of fibroid tumors (with exceptions noted) is dysfunctional bleeding in nature and is morphologically and physiologically identical with that from nonfibroid uteri.

7. The specificity of the corpus luteum hormone in contrast to that of the follicle has been confirmed by Smith, first by a repetition of Corner's work, and secondly by the discovery of distinctive reactions in the blood chemistry of experimental animals under various sexual conditions.

Ovarian Hemorrhage

Intraperitoneal hemorrhage from a rupture of an ovarian follicle is far more common than one would suppose. This clinical picture is sometimes diagnosed as ectopic pregnancy or acute appendicitis. It is difficult to make a definite diagnosis of intraperitoneal ovarian hemorrhage. Dr. F. B. Block (*American Journal of Obstetrics and Gynecology*, Jan., 1920), reports his experiences with three cases, and 59 cases studied from literature.

The symptoms are rather uniform. Patients complain of sharp abdominal pain, with an onset in the premenstrual period. The pain is not severe enough to give the appearance of shock, but if bleeding continues, the signs of internal hemorrhage will appear. The pain is usually referred to the right side, and may be associated with tenderness in the lower abdomen and some rigidity due to peritoneal irritation. The treatment depends upon the amount of blood present in the peritoneal cavity, and is usually surgical.

The author gives the following summary:

1. Rupture of follicular cysts is not uncommon.

2. The diagnosis is difficult to make.

3. It usually occurs in the premenstrual stage, and should be suspected in a virgin presenting signs of internal hemorrhage from no evident cause.

4. The most common cause of this condition is probably an exaggeration of the normal ovulation if the follicular rupture involves a small vein.

5. The ovary should be retained if possible and hemorrhage controlled by suture. The ovary should not be removed unless the hemorrhage is uncontrollable.

Cesarean Section

Dr. K. B. Steele of the New York Lying-in-Hospital has analyzed 59 cases of extraperitoneal cesarean section done by the Latzko method. (*American Journal of Obstetrics and Gynecology*, June, 1930). The extraperitoneal cesarean section is advantageous in cases which call for suprapubic delivery in the presence of complications which make entrance into the peritoneal cavity extremely dangerous. Advanced labor is a requisite for this operation, since dilation and thinning out of the lower uterine segment produce the following changes in anatomic relationships which are helpful to the operator: 1. Elevation of the vesico-uterine peritoneal fold, and to some extent, the bladder, with loosening of its attachments to the cervix; 2. marked lateral displacement of the uterine vessels and ureters. Its chief indication is in cases in which the vaginal or intraperitoneal cesarean section are dangerous because of the presence of infection.

The technique and other operative data are included in the text. From a study of 59 cases the author concludes the following:

1. Extraperitoneal cesarean section carries a minimum risk of complicating peritonitis when employed in the presumably infected case. It has all the advantage of a low double flap operation, plus the extraperitoneal feature, plus drainage.

2. Immediate surgical risk is increased due to the exhaustion of the patient and should be guarded against by all possible prophylactic measures.

3. Rupture of the uterus in subsequent pregnancy and labor carries the same risk as that of the low double flap. Subsequent delivery by this method is unlikely.

4. Bladder injuries of serious consequences are unlikely with increasing experience.

5. Postoperative course, wound healing, and stay in the hospital are satisfactory.

Dr. J. P. Greenhill's paper, "An Analysis of 874 Cervical Cesarean Sections performed at the Chicago Lying-in Hospital" (*American Journal of Obstetrics and Gynecology*, May, 1930), is a study of the sections performed at the Chicago Lying-in Hospital from July 1st, 1915 to July 1st, 1929. During this period of fourteen years, one thousand fifty-nine cesarean sections were performed. The incidence for this period is 2.06%. Of this number 874 were cervical cesarean section.

The chief indications were as follows: Pelvic disproportion 42.1%, previous cesarean section without test of labor 6.5%, toxemia without convulsions 9.7%, eclampsia

1.8%, placenta previa 4.8%, abruptio placentae 3.2%, dystocia dystrophica syndrome 4.9%, a number of previous stillbirths 4.2%, and cardiac disease 3.3%.

Only 50% of the patients were in labor at the time of operation, and of these 38.1% had labor pains between 1 and 25 hours, 9.3% had pains between 25 and 50 hours, and 2.6% had been in labor from two to four days.

In 21.4% of the cases, the membranes were ruptured when the cesarean section was performed, and the interval between the rupture of the membranes and the time of operation varied from one hour to eight days.

Ether was the anesthetic employed in 35.8% of the cases, novocaine alone in 55.1%, novocaine with ether or gas in 6.1%, ethylene in 2.6% and nitrous oxide in 0.4%. During the past year 92% of all cesarean sections were performed under local anesthesia.

Sterilization by means of operations on the fallopian tubes was performed in 9.6 per cent of all the cases. If the Porro operations are included, the incidence of sterilization was 11.7 per cent.

The cause of death in the 11 fatal cases was as follows: peritonitis 3, pneumonia (after ether) 2, sepsis 1, gangrenous appendicitis 1, pulmonary embolism 1, antepartum eclampsia 1, postpartum eclampsia 1, and tuberculous meningitis 1.

The maternal mortality according to the indications was as follows: cephalopelvic disproportion 0.8%, repeated laparotrachelotomy 1.6 per cent, toxemia without convulsions 1.2%, eclampsia 6.3 per cent, placenta previa no deaths, abruptio placentae 7.1%, cardiac disease 3.4%, and tuberculous meningitis 100%.

Fever after operation was present in 43.4% of the cases. The main causes of pyrexia in the 196 cases where the etiology was known were infected wounds 6.1%, pyelitis and cystitis 4.8%, bronchitis 2.1%, pneumonia 1.3%, grip 1.0, endometritis 0.9% and lochio-metra 0.9 per cent.

In 46.7% of the cases the patients left the hospital within fourteen days after operation and in 84.6 per cent they went home within eighteen days.

The fetal mortality according to the indications for the operation was as follows: cephalopelvic disproportion 3.3 per cent, repeated laparotrachelotomy no deaths, toxemia without convulsions 7.5%, eclampsia no deaths, placenta previa 23.8%, abruptio placentae 35.7%, and psychosis 100%. The chief causes of death among the 40 infants were as follows: dead before operation 22.5%, prematurity 25 per cent, atelectasis 20%, monsters 10 per cent and congenital heart disease 5 per cent.

Chronic Pelvic Infections

Priestly and Payne of Philadelphia, in their paper, "The Treatment of Pelvic Inflammatory Disease: A Report of 278 Cases Treated Surgically" (*American Journal of Obstetrics and Gynecology*, Jan., 1930), have made a very excellent survey and follow-up study of 278 patients who received surgical treatment for pelvic inflammatory disease in the Gynecological Service of the University Hospital. The patients were followed up for periods varying from six months to ten years. A large percentage of these cases were examined by members of the staff at frequent intervals. Information concerning the remaining few was obtained by means of detailed questionnaires. Most patients with pelvic inflammatory disease complain of pain, from this series 162 patients reported the presence or absence of pain following operation. Of this series 96% or 162 were largely or entirely relieved by operation. Those who had a conservative operation were 56 in number; the radical procedure was performed on 106 patients. The latter procedure gave a higher percentage of complete

relief of pain than did the conservative procedure. In the conservative group thirty-nine of the forty-five patients complained of post-operative pain which probably is due to a perioophoritis. The menstrual function usually is restored to normal following bilateral salpingectomy with conservation of the ovaries. The preservation of the uterus in conservative surgery definitely reduces both the frequency of development and severity of menopausal symptoms. Menopausal manifestations appear in this series earlier following radical than the conservative operation. Symptoms developed within two months in this latter group while in the former they proceeded normally for one year, and then menopausal manifestations developed slowly. Nervous temperament seemed to have influenced the severity of menopausal symptoms. Irrespective of the age, the most distressing manifestations appeared in those patients who showed nervous instability prior to operation. About one-sixth of the patients with conservative operation developed retention cysts of the ovary. Cysts which gave rise to no symptoms disappeared spontaneously, but some gave rise to pain and menorrhagia and required operation. Backache was relieved in 50% of the cases operated. From the above study of 278 patients treated surgically the following can be concluded:

1. The treatment of pelvic inflammatory disease should be conservative in delaying, and when possible, in avoiding, surgical intervention.

2. In the chronic cases indications for operation are: repeated attacks, persistent adnexal masses with pain and tenderness, marked menstrual disturbances, and certain economic conditions.

3. In the surgical treatment conservation of one or both ovaries, and if possible the uterus, is the procedure of choice.

Dr. A. H. Aldridge in his paper, "An Analysis of Operative results in 1066 Cases of Salpingitis" (*American Journal of Obstetrics and Gynecology*, March, 1930), analyzes the records of 1066 patients operated upon at the Women's Hospital of New York City, with the hope that it may add something to our knowledge of the dangers of operation in salpingitis. Since most writers believe that three-quarters of invalidism in women arises from pelvic inflammations, the treatment of the latter is very important. The literature written on the subject is focused on two points:

1. The nonoperative treatment of the patient who has a pelvic infection.

2. The choice of a safe time for operation on those patients in whom the infection has not been arrested nor the symptoms relieved by palliative treatment.

There are wide variations of opinion as to the choice of a safe time for operation. Simpson, who believes in the conservative methods, recommends that the patient must be allowed to recover from her acute illness, that she must not have temperature above normal a single time for at least three weeks, even after bimanual examination, and that the inflammatory exudate about the focus of infection must have been completely absorbed. Curtis recommends operation for the sequelae of infection, and not for the infection itself. He believes that operation should be directed at reconstruction of tissue laid waste by disease and not at stamping out the disease itself.

On the contrary, there are a number of surgeons who advocate operation for acute pus tubes as soon as the diagnosis is made, similar to a case of acute appendix. The tendency at this present day is to become more conservative in the treatment of pelvic infections and to avoid laparotomy whenever possible. In the analysis of 1066 patients operated on at the Women's Hospital

from 1920-1927 the author has made a detailed study and concludes the following:

1. Laparotomies for the cure of salpingitis while the infection is still active should be absolutely avoided.
2. Dangerous smouldering infections may be present in the pelvis which, even after bimanual examination, may not be accompanied by leucocytosis or fever. Sedimentation time should be used routinely to aid in detecting the existence of active infection in such cases.
3. Abdominal operations for salpingitis while the infection is still active are accompanied by an unjustifiable mortality, excessive morbidity, especially from shock, sepsis and defective wound healing, a high percentage of radical surgery and disappointing end-results.
4. Patients who have pelvic infections should be allowed long periods of convalescence and palliative treatment. If after such treatment spontaneous cures do not occur and operations eventually become necessary, the results will show a minimum percentage of mortality and morbidity, and a maximum percentage of conservative surgery and satisfactory end-results.
5. If operation seems unavoidable after a prolonged period of convalescence and palliative treatment, a cure by laparotomy should not be attempted until the inflammatory exudate about the focus of infection has been absorbed and the leucocyte count, temperature, and sedimentation time are normal.
6. Drainage of the peritoneal cavity by the vaginal route is superior to other methods. By this method the period of postoperative morbidity from delayed wound union and the incidence of postoperative incisional hernias are materially decreased.

Post-Operative Obstetric and Gynecological Embolus

One of the most tragic accidents that the surgeon must occasionally encounter is the occurrence of post-operative embolus with sudden death. Statistics show that thrombosis and embolism are more common in gynecologic and obstetric practice than in other branches of surgery. With this fact in mind, Polak and Mazzola (*American Journal of Obstetrics and Gynecology*, XX, Oct., 1930) reviewed 12,000 gynecological and obstetrical cases to determine, first, the incidence of thrombosis and embolism, second, the contributing causes, and third, the clinical value.

From this series of cases certain important facts were found. They are as follows:

1. The total incidence of thrombosis and embolism in 12,000 gynecologic and obstetric cases was found to be 0.5 per cent. The number of thromboses in the obstetric group is double the number in the gynecologic. Embolism predominates after gynecologic operations, thrombosis in obstetric deliveries.
2. Thrombosis following operation is more liable to cause embolism than when it occurs following delivery.
3. Emboli following operation are more fatal than those following delivery.
4. The appearance of the clinical symptoms of thrombosis and embolism usually occurs between the second and third weeks, about the time when patients are allowed out of bed.
5. Mortality rate is higher in cases above forty years of age. In our series the number of cases above forty years of age is greater in gynecologic group.
6. Morbidity was found to be present in 100 per cent of cases; infection is therefore a factor which must be considered.
7. Obesity, hypotension, leucopenia, albuminuria, pregnancy, age, fibroids, anemia, toxemia—all predispose to venous stasis.
8. Experimentally, torsion leads to varicosities, stasis,

and thrombosis with a generalized hyperplasia and hypertrophy of all contiguous tissues.

The authors have concluded the following:

1. Venous stasis, the physiologic blood changes following operation, trauma, and infection, are the chief factors which predispose to thrombosis and embolism.
2. A more thorough preoperative study with detailed medical treatment of cases with hypotension, low basal metabolism, leucopenia, anemia and hypertension may lower the incidence.
3. As a prophylactic measure to diminish the occurrence of femoral thrombosis, besides asepsis and antiseptics, we must increase the metabolism activity and provide for the proper circulation of blood in the lower extremities. This can be accomplished by the employment of passive motion and the administration of thyroid extract before and following operation.
4. The subject of thrombosis and embolism is far from being settled and still remains an important problem for investigation.

Newer Therapeutic Agents in Obstetrics

During the last decade or longer certain oxytocic drugs have been advocated to initiate labor, to stimulate contractions in the presence of uterine inertia and to shorten the second stage of labor. One such agent (pituitary extract) has caused more discussion perhaps than any other drug in the pharmacopeia during this period with the possible exception of the digitalis group. And rightly so, for it was early proven to be a very dangerous drug and for lack of appreciation of this fact much morbidity and far too many deaths in parturient women have been the result.

During the past year there have appeared at least two noteworthy papers in the American literature on another preparation comparable to pituitary extract, in fact it is a mixture of pituitary and thymus extracts, and whose action is said to be safe, when properly used, for both mother and child. It is called thymophysin and was first used by Nicholas Temesvary of Budapest, Hungary, who published his first report in 1925.

At the 1929 meeting of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Dr. Temesvary read his paper, "A Rapid Nonsurgical Procedure for Aiding Childbirth" (*American Journal of Obstetrics and Gynecology*, XIX, Feb., 1930), in which he gives his ideas of a good oxytocic drug and explains why he thinks thymophysin falls within this class. Numerous experiments were performed by many research workers in Germany, including the author, before thymophysin was finally "put on the market" for general use. About 1000 cases of labor have had thymophysin administered without serious mishaps to mother or child.

The effects and results of thymophysin may be summarized as follows:

1. It may be given any time after initiation of labor. If given before true labor has begun it has no effect.
2. It very definitely shortens labor stimulating uterine contractions in a physiological manner and therefore is safe. (Doubtful—it contains pituitary extract!!!)
3. It is sometimes ineffective—e.g., when true labor has not begun—when the uterus is too exhausted or too distended (twins); in consequence of toxic injury to muscles of the uterus, etc., etc.
4. It is contraindicated in contracted pelvis, malposition of the fetus, malformation of the fetus or maternal organs and in cardiac or renal disease.

Julius Jarcho of New York reviewed the literature and reported his observations on 18 labor cases in which thymophysin was used in his paper "The use of Thymophysin for Weak Pains in the First and Second Stages

of Labor." (*American Journal of Obstetrics and Gynecology*, XIX, Jan., 1930).

The author's conclusions are as follows:

1. Reports from various European clinics indicate the value of thymophysin (a combination of thymic and pituitary extracts) to increase the force, frequency and duration of feeble labor pains, especially during the first stage but also in the second stage when the pains have stopped.

2. The preparation is administered intramuscularly, preferably in the gluteal region. In my experience, it is best to begin with a smaller dose of 0.5 c. c. followed by a second similar injection or by a dose of 1 c. c., if the first dose does not prove effective.

3. The use of thymophysin not only hastens and facilitates normal delivery by aiding dilation of the passages but also lasts into the third stage, so as to promote expulsion of the placenta.

4. The most favorable type of case is primary inertia. When the uterine musculature is exhausted by prolonged labor, the preparation proves ineffective. In such cases, the mother should be given a rest before labor is resumed. Then thymophysin may prove of value.

5. It does not appear to injure the mother or child.

6. Results are sufficiently encouraging to justify other physicians having the facilities to employ the preparation and observe their results. In the meantime, final judgment as to its value should be withheld.

643 St. Marks Ave., Brooklyn.

Urology in 1930

(Concluded from page 23)

fusions are necessary to bring the red cell count and the hemoglobin to an approximately normal level. If anemia recurs, the treatment may be repeated.

Metabolism Studies in Nephrosis.—D. M. Cowie, K. M. Jarvis and M. Cooperstock (*Amer. J. of Dis. Child.*, 40:465, Sept., 1930) report the study of a case of chronic glomerular nephritis in a child, which passed into the so-called nephrotic type while the patient was under observation. The observation period was 105 days. It was found that edema and ascites could always be induced by diet with an inadequate amount of protein. But when the protein of the diet was increased so as to insure a positive nitrogen balance of from 1 to 3.76 gm. and to bring the blood proteins up to 5 gm. per 100 c.c., edema disappeared. A high protein intake brought about a marked increase in the amount of urine and also an increase in the albumin output in the urine. For the first twelve days of the period of highest protein feeding the albumin output was greatly increased; it then adjusted itself to a lower level, but was still approximately 50 per cent above the average of the previous feeding periods, although the edema had entirely disappeared. With a lower, but adequate, protein intake the albumin was reduced, but did not entirely disappear, although the patient remained free from edema. In order to keep the patient free from edema, the serum protein had to be maintained at 5 per cent, as edema was almost always present when the serum protein was below 4.5 per cent. The albumin-globulin ratio was always below normal, but was increased above its lowest level by adequate protein feeding. The high protein feeding did not cause an increase in the nonprotein nitrogen of the blood. The retained nitrogen was evidently stored in some of the tissues that are protein storehouses. The edema in this patient cannot be ascribed to lower osmotic pressure of the blood. The chlorides were almost invariably above nor-

mal; and the organic crystalloids were normal. The cholesterol of the blood was high throughout the study and remained high after the edema had entirely disappeared. During the period of observation the basal metabolism was high throughout; the highest rate was +23. In this respect this case differs from the usual one of nephrosis. Since the feeding experiments have been discontinued and the patient is on an adequate protein diet which keeps him free from edema, the basal metabolism rate has gradually returned to normal.

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Progress in Surgery During 1930

(Concluded from page 13)

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Fear is a Mental Deformity

The behavior problems of David—hitting children, destroying their projects, and acting silly—are not unknown among two-year-old children in the "best families." There the usual treatment is a sharp command to "stop that" or, perhaps, physical punishment. Both of these methods are unpsychological because each maims the personality. Neither one develops the child. So far as either has any effect, the restraining influence is fear; and fear is a mental deformity. The behavior of many mothers would seem to indicate that they think their chief function is to thwart or forbid, and to enforce their prohibitions with punishment which is thought suitable to the tender years of the child. This is the easiest way to discipline. It is also the worst.—E. J. Swift, *The Psychology of Childhood*, New York, D. Appleton & Co., 1930.

No Digitalis Action

In functional cardiac derangements many practitioners prefer a heart stimulant, milder and above all less dangerous than those of the digitalis group. In such cases Cactina Pillets, made from the fresh green drug of Mexican *Cereus Grandiflorus*, are invaluable. A cardiac tonic when the musculo-motor action requires strengthening, Cactina Pillets are non-cumulative and devoid of the over-dosage risks accompanying the digitalis group.

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Announcement

With this—the November-December issue—the *Long Island Medical Journal* closes its twenty-fourth volume and ceases as a separate Medical Journal.

Beginning in January, 1931, the *Long Island Medical Journal* will appear in a new form as a combined journal with MEDICAL TIMES under the name THE MEDICAL TIMES AND THE LONG ISLAND MEDICAL JOURNAL (consolidated).

For fifty-eight years MEDICAL TIMES has enjoyed a large following and for many years has been edited by members of the Associated Physicians of Long Island, Drs. H. Sheridan Baketel and Arthur C. Jacobson.

For twenty-four years the Associated Physicians of Long Island has published and edited the LONG ISLAND MEDICAL JOURNAL. By action of the Directors of the Association the five editorial representatives who will co-operate with Dr. Jacobson, now the editor of MEDICAL TIMES in the development of the consolidated Journal are Drs. William H. Ross, Arthur C. Martin, Ernest E. Smith, Joshua M. Van Cott, and Alec N. Thomson.

The Department of Reviews and Exchanges will continue in the new relationship as a special feature of the combined journal. With pardonable pride the *Long Island Medical Journal* looks back over the years upon its book review and exchange department as an outstanding accomplishment and bespeaks for the MEDICAL TIMES and the *Long Island Medical Journal* the same

hearty support from medical journals, publishers and reviewers.

An Announcement

As an independent journal the MEDICAL TIMES has won the confidence of twelve thousand individuals; now this confidence is also expressed by a number of bodies representing organized medicine.

The Associated Physicians of Long Island, now a geographical center of seething activities in the medical sphere, is the fifth organization to register this confidence in one way or another. But in the last case an unusually significant recognition is involved, for the erstwhile organ of the Association, the *Long Island Medical Journal* itself, becomes, on January first, 1931, of one flesh with the MEDICAL TIMES. The new publication resulting from this consolidation will be known as the MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL.

The vigorous life of this young publication—its first issue appeared twenty-four years ago—has been such as to give a decidedly eugenic aspect to its marriage with the MEDICAL TIMES. The professional progeny of these two trustees of the written word, who will address continents and hemispheres by reason of the far-flung and increased circulation of the new journal, should be a signally significant brood.

Growth is the law of life. The "metabolism" of our hospitals, medical schools, societies, medical libraries, clinics and centers is becoming more and more dynamic. Not the least factor making for improved professional metabolism is the sixth—the medical press. That the MEDICAL TIMES has entered the fifty-ninth year of its life better endowed than ever with those elements which enable a publication to compete successfully in a changing world, is due to its adaptability to that world, its readiness to give and take, as shown in the present merger—for realists a significant sign of the times, medically speaking. There is a fine challenge in all this to the forces of organized medicine and independent journalism to go along together in a new way—for extremes to meet, if you like, and the courage that aims at better things to be well tested. The good of medicine itself should be the first, last and only consideration.

Through the medium of its exchanges the consolidated journal will reach the remote corners of our own nation and practically every foreign country, thus making its contents available to a world-wide field. The Book Review Section, heretofore especially featured in the *Long Island Medical Journal* and recognized for the high character of its book notices, will in the combined journal not only maintain its special individuality and arrangement but will be considerably expanded.

Five Editorial Representatives of the more than eight hundred members comprising the Associated Physicians of Long Island will co-operate with the editor in carrying on the fine tradition created by the past directors of its organ—the lamented Pilcher and Webster, Overton, at present Editor of the *New York State Journal of Medicine*, and Thomson, now editing the *Long Island Medical Journal*. These five Editorial Representatives will be William H. Ross, M. D., President of the Medical Society of the State of New York, of Suffolk County, Arthur Chalmers Martin, M. D., Ex-President of the Medical Society of the County of Nassau, Ernest Ellsworth Smith, M. D., Secretary of the Medical Society of the County of Queens, Joshua Marsden Van Cott, M. D., distinguished teacher, clinician and leader of Kings County, and Alec Nicol Thomson, M. D., Editor of the *Long Island Medical Journal*, also of King County.

So, in addition to the already great geographical char-

acter of the work done by the *MEDICAL TIMES*, expression will now be given, in the columns of the new journal, to the genius that is germinating and flowering in the colossal medical center of Long Island, that "Paumanok" beloved of her greatest son, one of America's immortals, Walt Whitman, who so often sang the praises of the "SEA BEAUTY! stretch'd and basking!"

The further destiny of Paumanok looms impressively in the medical scheme of things.

Harvey Burleson Matthews, M.D., Associate Editor

With this, the first issue of the *MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL*, Dr. Harvey Burleson Matthews, of Brooklyn, assumes the title of Associate Editor. Son of Texas and the New South, he brings to our organization great energy and a great record. Distinguished obstetrician and gynecologist, experienced teacher, member of the staffs of many hospitals, including the South Side Hospital at Bay Shore, author of original research studies which are influencing thought and practice in his special field, his affiliation with the *MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL* symbolizes the new era upon which this publication has embarked, an era in which it hopes to weld more closely the medical links of North, South, East and West.

The Crisis

In the crisis in its affairs that the medical profession is admittedly facing it is well to set down some ideal fundamental principles, after which we may better proceed to the discussion of present factional line-ups and possible future courses of action.

- a. Medicine should be the keystone of the modern civilized State. In so far as medical science and medical leadership have failed we have an explanation of the outstanding defects of present-day society.
- b. Health should be a first charge upon the State. Medical service should always be a direct economic charge upon responsible individuals or organizations, or, in the case of the indigent, upon the State or any subdivision of the State in which necessary service is rendered.
- c. Medical leadership means among other things a ruthless attitude toward any environment militating against health, no matter who or what the responsible factors are. It follows that leadership should be capable not only of co-operation, when in order, but also of forcing adjustments which would at least improve the economic, social and industrial environment while looking, if need be, to fundamental changes in the social order.
- d. Adequate medical care should be available to all the people, when ill, at all times—curative medicine.
- e. Disease should be reduced to a minimum—preventive medicine.
- f. Life should be prolonged beyond the present span.
- g. The personal relationship between physician and patient should be preserved.
- h. Medicine should become more definitely a co-operative undertaking, always under the sanction of the organized profession and always providing the leadership. "No plan for public health can be successfully consummated unless it has the full co-operation of the medical profession."
- i. The economic, social, scientific and professional integrity of the individual practitioner of medicine must be maintained; adjustments which jeopardize

or defeat this principle cannot benefit the public. The exploitation of free medical service, particularly by institutions, in the soiled name of altruism, is a major curse. Behavior which immorally connotes that we are above the operation of economic law should be debunked.

- j. Proposals for changes in the organization and practice of medicine should challenge reactionary factors in such a way as to compel adjustment on their part to medicine and to compel its endowment.
- k. Medical science must progress far ahead of and despite a reactionary social order and must establish sanative truth regardless of the consequences to such an order.
- l. Only adherence to sound fundamental principles will enable organized medicine rationally to insure the perpetuity of its solidarity and tone, and to promote the medical welfare of society. Leadership must be based upon firm foundations.

Our colleague, Dr. William H. Ross, while President of the Medical Society of the State of New York, took the opportunity to make a close study of medical relationships. Their modernization seems to him possible enough if only the doctors will accept leadership. He insists that the non-professional agencies want the medical man to lead them. If medicine is a public service in addition to an individual occupation how can such leadership be rationally evaded? Public opinion demands action and looks to the medical profession for it. Dr. Ross points out the fact that in assuming leadership the doctor would merely be repeating the past; he was a leader once upon a time and Dr. Ross believes that he will become a leader again in the new conception of what is expected of the practice of medicine. "The doctor to-day must recognize new conditions and that there must be a new relationship to meet them. . . . It will avail him little to fight these conditions, and if he does, he will be defeated in the end." We take this to mean that the doctor would in the event of defeat be cast for the part of the goat in our social drama. It is a fair inference that the recalcitrant one would be drafted for service, he being the only one in the community fit to give it. The drafting and the form of service would be likely to differ from that of a free and independent relationship, assuming fitness for leadership. If we are not fit to lead then we deserve to be drafted in an inferior capacity. To put it another way, if we ever are drafted it will be proof positive that we are sterile as regards leadership. Unless the profession shows an ability to lead in solving problems with which health organizations interested in human welfare are clumsily trying to cope, and unless it shows a willingness to co-operate instead of fighting and retreating in disorder, then certain unnamed goblins are likely to lay their dank claws upon us. "Government understands this principle. Nations understand it. Industry understands it. The medical profession is beginning to understand it."

So one school of thinkers views the crisis.

Another school representing high motives is so jealous of ancient prerogatives and so solicitous for the welfare of the profession and society that it responds approvingly to the words of Dr. Morgan in his Presidential (American Medical Association) capacity: "Aside from efforts directed toward the conservation of the public health by agencies of government, there has grown apace another form of paternalism applied not to public health but to the health of the public. The list is long and steadily growing longer of agencies medical, quasi-medical, and plainly non-medical, which have for their object some form of medical oversight, 'guidance,' 'edu-

cation,' 'social service,' 'psychiatric social service,' 'case work,' and what not, all directed toward the physical, mental, moral, or emotional life of parents or their children, and all under the guise of physical or mental betterment."

Dr. Morgan continues: "After looking through the list of these agencies, one is constrained to ask what has come over the people that makes such oversight necessary or possible? We are told that mothers have been 'educated' in the care of their children, until they are stampeded by the multiplicity of directions and in increasing numbers are turning the job over to the clinic or 'center' or whatever agency may be available for shifting responsibility while they read the latest thriller or go to the movies."

Much of the pressure that is being put upon the medical profession comes from wise and well-meaning folk and they are not setting any traps for us. Some of it comes from the super-Babbitts, whom Dr. E. H. Ochsner must have had in mind when he wrote that "Capitalists and industrialists are trying to compel the medical profession to adopt the same methods that they themselves employ in their factories, where standardized goods of mediocre quality are produced by mass production." The motive of such pressure seems to be the drafting of the profession merely to serve the reparative ends of the capitalist system at all needed points.

The proponents of State medicine would pervert the slogan of Dr. Malcolm L. Harris (Ex-President of the American Medical Association) which adjures us to prepare "to serve all of the people all of the time." Under a smoke screen of specious words and methods they would dragoon us into some sort of State medicine which would "bind and fetter us with endless and ever-changing rules and regulations, and scold, threaten and fine us for transgressions regarding everlasting reports." Then we "would be worse than Volsteaded, Harrison-acted, and Shepard-Towered by chiropractor-adjusted, osteopathic-lobbied legislators, and all concerned would suffer and no one would benefit." By these gentry we are to be placed under a heavy barrage and kept constantly on the defensive. Inspired, not spontaneous, magazine articles will appear, charging the profession with grievous shortcomings. Out of all the groups allegedly responsible for the high cost of living we shall be singled out for special discipline. Like the small Bolshevik phalanx that seized control in Russia, the tireless—and well financed—forces behind these attacks aim ultimately to trap us. Every opportunity, such as a period of depression, is taken advantage of to plant mines. A type of medical man who is never actually in practice and who would hold high office under such a system is coming to the fore as a veiled prophet and future protagonist of the campaign. Certain conditions give the plotters some ground for complaint (which would be true of any group under malicious fire), and the medical schools play more or less into the hands of these people by not preparing enough practitioners for the kind of service most needed by the country at large, and by failing, in the main, to aid in solving the problem of distribution. Meanwhile the plan of campaign becomes less and less subtle in its visible expressions. Our own failure in leadership—one measure of which is the humiliation put upon the profession by the Ignoble Experiment—exposes us more than anything else to great peril at the hands of our legislators.

The wisdom, statesmanship and leadership of Dr. Ross seem to us to point the way in which we should go: "Adjust our relationships, guide health proposals by organizations representing public interest, make use of all organizations and of all wealth, continue to ful-

fill the social function that the medical profession has always filled toward human happiness and human betterment. We sacrifice not one bit of our scientific attainments by doing this. We only meet the broader conception of the practice of medicine. . . . No other group in the world can give this service."

The dynamic leadership that has been postulated will have to take into constructive account, among many other things, extremes of poverty and wealth, the regulation of population, eugenics and euthenics, the rationalization of industry, and the reorganization of medicine to meet the tasks implied.

Medical science the arbiter of the modern civilized State; the most beneficent of humanity's forces; the fundamental lever of society; the Nemesis of war! What disciple of Asklepios dares to will a less exalted rôle for medicine?

Cesalpinus and the Harveian Society's Centenary

The year 1931 marks the one hundredth anniversary of the Harveian Society of London, which was founded in 1831.

No doubt there will soon echo from across the seas encomia from which one will miss any laudatory allusions to Andreas Cesalpinus—or any other kind, for that matter. In them only one king of glory will reign supreme. One sceptre, one crown, one statue, and one allegiance will be declared sacred by the Anglo-Saxons who, in good faith and traditional form, will pronounce these encomia.

The proceedings of the Society on this occasion will be followed with smiling decorum by many happily informed mortals and by a certain amused shade. This dissenting minority will recall the earlier researches of the Italian, his accurate interpretation of the venous phenomena following ligation of an extremity and of the color changes in the blood which flows from a vein when punctured, his conclusion that the blood flows toward the various organs in much larger quantities than is sufficient for nutrition, his astonishing familiarity with the mechanics of the cardiac valves, his postulation of capillary vessels between arterioles and veins (Harvey could think of nothing better than "porosities" in the intervening tissues), and his correct description of both the general and pulmonary circulations.

This minority will honor Harvey for his mathematical or quantitative demonstration—a marvelous application of physics to medicine; but it will have no illusions on the subject of priority with respect to the discovery of the general circulation.

A Resolution and a Contrast

At a recent meeting of the executive council of a well known medical organization a resolution was adopted urging physicians throughout the country to extend credit for medical services to the unemployed and to part-time workers during the period of depression. This proposal for a medical moratorium must have struck many at once as an incredibly inept gesture. As though a medical moratorium were not in effect all the time (including many of the employed). The average professional income is proof enough of the doctor's mercifulness at all times. The palliative proposed will find inevitable application automatically and our big boys' resolution is superfluous. The gesture suggests complete innocence of both elementary and medical economics and of social psychology. Since when, in any case, has the profession failed, at infinite cost, to temper the economic wind to the shorn lamb? We are bound to say

that the resolution was the most naive thing we have heard of for a long time, to say the least.

How different from the sentimental balderdash and flatulent exhibitionism of this resolution is the well considered pronouncement of an eminent churchman which we shall quote—and what a model for Economics Committees trying to find out what is the matter with the social order and the practice of medicine. In the *American Ecclesiastical Review* of September, 1928, this churchman laid down the following principles:

"Not until universal high wages, insurance against unemployment, sharing in industrial management and profits, and also sharing in the ownership of corporations prevail will we have a self-respecting and humanized, because economically secure, population, able and willing to go into partnership, so to speak, with medical science and medical men."

Our point is that between the economic Babes in the Wood who were guilty of the resolution and the churchman who understands and states fundamentals a vast chasm yawns—in point of intelligence, insight and social power.

To what extent are the former interested in the fundamental factors making for economic hardship, with its repercussion upon the sick and upon the medical profession? Two years before these superficial palliators spoke the preventive program of the churchman was promulgated.

What a contrast in the manner of approach to burning problems! One is that proper to the scientist; the other marks the incorrigible tinker.

Miscellany

THE CAPTURE OF PROFESSOR McILROY'S CAP

A Stirring Episode in the Internecine War Among the London Contraceptionists

Some time ago, Professor Anne Louise McIlroy, Professor of Obstetrics and Gynecology of the Royal Free Hospital, London, read a paper before the Medico-Legal Society, and in the discussion that followed stated that the rubber check pessary was "the most harmful method of which I have had experience." Dr. Halliday Sutherland, characterized by Dr. Marie Stopes, the heroine of this story, as "a Roman Catholic with an active bias against contraception," was present at this meeting and noted Professor McIlroy's phrase, subsequently quoting it in his book in a paragraph which contained a passage for which Dr. Stopes sought redress in a libel action. In the course of the trial Professor McIlroy repeated her condemnation of rubber check pessaries, which she believed to be too dangerous to apply to anyone, pinning her faith to the condom.

Soon after the trial it came to be rumored that Professor McIlroy was using the very type of pessary in question, in the course of her clinical work—a practical testimonial, it would seem, to the method devised by Dr. Stopes. Thereupon, Dr. Stopes felt that it was incumbent upon her to verify or disprove the rumors. The rest of the story is best told in Dr. Stopes' own words, taken by the writer from a reprint of an article by her which originally appeared in the *Birth Control News* of February, 1930:

Knowing how unreliable are the reports of the poor patients, and how easily they are mistaken, I felt that Professor McIlroy could not be using vaginal caps without any open acknowledgment of her change of view in face of the irreparable injury she

had done me before she became a convert to their use, and that I would not do her the injustice of assuming that this was so without irrefutable proof. Feeling that, as the public is now so very widely converted to the usefulness of contraceptive practice, and that the minority who hesitate are largely influenced by "medical opinion" supposed to be against, it appeared of very great importance to sift the medical evidence hostile to birth control.

Hence, when I heard from several sources that Professor McIlroy was inserting rubber caps, instead of accepting hearsay evidence I felt, in fairness to her and to insure absolute certainty, both about the fact and the detail of the procedure, that the most illuminating as well as the most interesting course to pursue would be to disguise myself as a poor woman, and to submit myself to the out-patients' department of the Royal Free Hospital for instruction in Birth Control. This I did.

First, I had successfully to disguise myself, not as in the theatre, merely to make up the face to carry conviction across the footlights to a distant audience, but for daylight scrutiny at close quarters—a much more difficult matter. This I effected, and ultimately presented the appearance of a work-grimed charwoman. Choosing the correct out-patients' day, I waited on a form in the ante-room of the reception room. Three hours later I left the hospital with the vaginal rubber cap, which had been advised and inserted in me by Professor McIlroy.

No episode occurring in the course of the late war recalling personal valor and sacrifice excels—if indeed any equals—the heroic foray of Dr. Stopes into the "No Man's Land" which lay between the embattled birth-control camps in London. The very exploits of Hereward the Wake against the Normans pale into insignificance. Think of the vulgar implications that might be read into the action of this frail, sensitive and cultured woman and of the risks she ran in the very camp of the enemy; what a fate to contemplate—more dreadful than ever befell a Father Jogues in the camp of the savage Iroquois. Dr. Stopes might have sent a substitute, but no, she is a leader who would never think of asking any of her followers or patients to do anything that she would not essay herself. It is a deathless tale, deserving to be enshrined with that legendary one which recounts the exhibition staged by that other famous publicist, Lady Godiva, in behalf of the people of Coventry. Another Tennyson must arise in England, if this deed of Dr. Stopes, as glamorous as any of the great myths, is to be fitly chronicled. Who will say that the feat of Lady Godiva has not, indeed, been outdone? The sacred person of Godiva was not touched by profane hands. Indeed, the phrase "to cap the climax" has taken on a new meaning. The Wearing of the Green gives way to the Wearing of the Cap—the crowning, forsooth, of the most valiant organ in all Britain.

Southey's Tubes

1. In eight cases of extensive edema, mostly the result of congestive heart failure and resistant to medical therapeutic measures, we have employed Southey's tubes inserted into the edematous subcutaneous tissue of the legs or scrotum. In two of our patients the results were strikingly beneficial, following the removal of 16 liters in the course of two days in one case, and of 9 liters in three and one-half days in another. In three patients there was moderate relief; in one case only slight improvement was noted; the remaining two patients were not relieved.

2. In suitable cases the use of Southey's tubes is a valuable therapeutic procedure, and we believe that the employment of this method as recommended many years ago by Reginald Southey should be revived.—E. F. Bland, M. D., and P. D. White, M. D., in *J. A. M. A.*, Nov. 15, 1930.

Radium Luminous Only If Impure

Radium is not luminous, and the faint glow from tubes of radium salts comes from impurities, according to a statement on radium prepared by the Chief Engineer of the Rare Metals and Nonmetals Division of the Bureau of Mines, Department of Commerce, Paul M. Tyler.

Luminous paints are made by mixing radioactive material with phosphorescent substances, such as zinc sulphide. The paint used in this country on watch dials to make them glow in the dark has consisted chiefly of crystalline zinc sulphide mixed with various parts of radium mesothorium and radiothorium.

Life Created in Test Tube Hints at Electrical Soul

Startling Scientific Experiment Revealed at Cleveland Clinic

The *Chicago Tribune*, in a special despatch from Cleveland, said recently that "the secret of life, for which science has been searching for years, may lie in a test tube in the biological laboratory of the Cleveland Clinic Foundation, over which the noted scientist Dr. G. W. Crile is the guiding genius."

"Penetrating to a slight degree the wall that has been erected about what may be one of the most startling of scientific discoveries," the *Tribune* said, "a reporter was able to catch a glimpse of the unnamed thing that may verify certain radical scientific theories concerning the nature of the force called life."

"This promise might be fulfilled," the *Tribune* said, "if the creature that is said to live and breathe in the biologist's test tube, a thing without parents and reputedly born in defiance of all accepted and recognized processes of procreation, does not disappoint its human creators."

The *Tribune* story said the discovery might reveal that the force of life is closely allied to electricity, "if, indeed, it is not electricity as man knows it."

The story said that one unnamed person connected with the experiment admitted reluctantly that "something approximating life" has been produced and "that something amazing and revolutionary has taken place there."

The experiment was described as follows:

"Brain tissues taken from a freshly killed animal were reduced to ashes electrically. From the resulting substances certain salts and other elements were obtained. To this substance was added protein and perhaps some other elements and chemicals. The whole was treated electrically."

"Before the eyes of the astonished scientists there appeared a 'thing' with characteristics of a living cell or protozoa."

"The 'thing' possessed the power of locomotion. It also possessed and utilized the power of procreation by fission or cell division. It fed on the protein in the test tube, consuming it as other unicellular animals do their nourishment."

"In addition, it was found that the 'thing' was susceptible to narcotics, becoming dormant when subjected to certain drugs and later recovering."

"It was declared that, owing to the care taken in the experiment, no living thing could possibly have entered the ingredients of the concoction."

The *Tribune* quoted Dr. William E. Lower, an associate of Dr. Crile, as expressing the opinion that the latter would lay his facts before the meeting of the American Society for the Advancement of Science, which meets in Cleveland Christmas week.

EDITOR'S NOTE.—On the basis of the foregoing story, as told in a United Press despatch which appeared in the *New York Evening World* of December 8, 1930, one may fancy a movie written along the following lines. In such a movie the late Lon Chaney would have found the "Thing" the greatest part in his career.

THE "THING"

FIRST NATIONAL STUDIOS

A MODERN MIRACLE OF TECHNICOLOR

FIRST PRIZE SUPER-PRODUCTION AWARD BY THE
ACADEMY OF MOTION PICTURE ARTS AND SCIENCES

WESTERN ELECTRIC SOUND SYSTEM

ALL-STAR CAST

Scenario G.....e W. C.....e
Director Cecil De Mille
Film Editor Daniel Mandell
Lighting and Color Effects..... Gordon Craig
Photographer Harold Wendstrom
Designer of Sets William Cameron Menzies
Art Editor Norman Bel Geddes
Dialogue Donald Ogden Stewart
Sound Engineer C. Roy Hunter
Musical Score George Gershwin

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PASSED BY THE NATIONAL BOARD OF REVIEW

Necrology

Ernest Ellsworth Smith, M.D.

It is with the deepest regret that we record the death of Dr. Ernest Ellsworth Smith. He was a graduate of the Sheffield Scientific School (Yale) and of Bellevue Hospital Medical College (New York University). His career in medical chemistry began at Yale, where he was an assistant in physiological chemistry for about four years. He then became associated with the Herter Laboratories in New York (1891-95). From 1906 to 1911 he was professor of physiology and organic and biologic chemistry at the Fordham University Medical School. Experimental medicine and clinical pathology occupied a large part of his time and thought. Dr. Smith was a Fellow of the Academy of Medicine and had served as President of the Academy of Sciences and of the Medical Association of the Greater City of New York. At the time of his death he was Secretary of the Queens County Medical Society, consulting physiologist to the New York Health Department and to the Jamaica Hospital, and had just been named to serve as one of the Five Editorial Representatives of the Associated Physicians of Long Island on the staff of the *MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL*. He was the author of an authoritative work on *Aluminum Compounds in Food* and did much original work in his own laboratory on foods adapted to children. An authority on legal medicine where it touched upon his own field, he found much to stimulate his interest and abilities in the Society of Medical Jurisprudence, of which he was a trustee. His genial personality and great attainments made him a singularly attractive figure in the world of medicine.

William Benham Snow, M.D.

The death of Dr. William Benham Snow at the age of seventy arouses reflections upon the great part played by this distinguished physician in the pioneering days of physical therapy. Few of us realize fully the profound obligation of present-day medicine to such men as Dr. Snow.

Dr. Snow was one of the first to practice, teach and write about electrotherapeutics in a manner to command complete respect, and the physical therapy of today is years in advance of where it would be if he had not lived.

Graduated in medicine in 1885 (College of Physicians and Surgeons), he was soon teaching electrotherapeutics and nervous diseases in the Post-Graduate Medical School and Hospital. In 1901 he organized the New York School of Physical Therapeutics. Early work with the roentgen ray cost him a finger.

Dr. Snow wrote many books, completing the text of a comprehensive work on physical therapy just before his death. He entered the editorial field in 1902 and his work for physical therapy therein was of the highest order.

The world of physical therapy—and what a world it is—has lost a founder and a great citizen.

Charles Bowman Bacon, M.D., F.A.C.P.

The death of Dr. Bacon on December 11, at the age of sixty, deprives the Public Hospital system of New York City of one who typified the medical civil service at its best. At the time of his death he was Superintendent of the Kings County Hospital, Brooklyn, having previously been Superintendent of the City Hospital on Welfare Island and of the Cumberland Hospital.

Dr. Bacon's death occurred just after his return to the hospital after the annual dinner of the Colgate Alumni Association at the Hotel Commodore. The doctor was a graduate of the Medical Department of the University of Buffalo (1897). His internship was served in the Kings County Hospital of Brooklyn. As a hospital executive his abilities were of the highest order. Thoughtfulness and kindness distinguished his human relationships with residents, attending staffs and patients. He was greatly admired for his medical and executive knowledge and experience as well as for his broad culture. Outstanding in the man, however, was his genius for making and keeping friendships, and for this he will be longest remembered.

Correspondence

Ruini and the Circulation of the Blood

Editor MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL:

Your article on the "History of the Circulation of the Blood," I have read with much interest and appreciation.

I think it would have been improved, however, if you had also mentioned Ruini's work. He had a good understanding of the pulmonary and the general circulation, and carried forward the work of Cesalpinus and Columbus, just as they built upon the work of Galen and Servetus.

Ruini's anatomy was published only five years after that of Cesalpinus, and in the very year that Harvey went to Padua. Ruini, as you probably know, was an Italian veterinarian.

I think Harvey is entitled to a great deal of the credit for making the people believe him, a thing that Servetus, Columbus, Cesalpinus and Ruini, in large measure, failed to do.

Yours very truly,

D. M. CAMPBELL, Editor, *Veterinary Medicine*.

Chicago, Ill., December 15, 1930.

EDITOR'S NOTE.—The figure of the veterinarian Ruini looms very large in any consideration of this historical question, chiefly because of his understanding of the valvular mechanism of the heart. Another fascinating figure whom the editor neglected to include in his article in the December, 1930, issue of the *Long Island Medical Journal*, now consolidated with the *MEDICAL TIMES*, is the churchman Paolo Sarpi, the colleague of Fabricius, who understood the mechanism of the venous valves.

Vaccines: Their Use in the Control and Cure of Disease

Preventive medicine is a science that is unfolded to us a little at a time; so it behooves us to take advantage of every new development that scientific research can give us.

The trend of modern medicine is towards prevention of disease rather than merely its cure. In China, physicians are paid to keep people well; if disease develops the doctor receives no pay for treating the patient. In the next twenty-five years the same condition may obtain in America. The medical profession is endeavoring to point out the many valuable methods of preventive treatment that have been perfected in recent years; and I shall endeavor to discuss those vaccines and allied products which are not only of interest from a public health viewpoint but which come within the field of activities of the nursing profession.

Now, what are vaccines? Strictly speaking, a vaccine is any material used for preventive inoculation, which on introduction into the body produces active immunity by the formation of immune substances. They may be prepared from, 1, filtrable viruses; 2, killed bacteria; 3, the toxin or poison of a germ, and 4, extract of the pollen protein or active principle of plants.

During the last twenty-five years the employment in medicine of these various types of vaccines has assumed considerable importance. The therapeutic action of a vaccine consists in the stimulation of the patient's tissue cells to the production of various antibodies or immune substances. These immune substances protect the patient against the disease and this type of immunity is termed "active" because the patient's tissue cells play an active part in the process.

Vaccine therapy, or as it is popularly called, "vaccination," actually dates back to the time of Edward Jenner who, in 1796, demonstrated that inoculation with cowpox virus would protect an individual against subsequent infection with smallpox virus. Further advances in vaccine therapy were not made until Pasteur's work nearly a century later. Based on general observation that immunity to smallpox could be produced by attenuated virus, Pasteur developed methods of vaccinating against several animal diseases, and in 1885 he perfected antirabic vaccination. The general use of bacterial vaccines dates from the application of antityphoid vaccination by Sir A. E. Wright in 1896. The success of this remedy has served to point the way to the development of similar products for the prevention and treatment of other diseases.

SMALLPOX

Prevalence.—During 1928 there were 39,396 cases of smallpox reported in the United States, but only two cases in the State of New Hampshire. Smallpox can be eliminated from every locality only by thorough and systematic vaccination.

Vaccination against smallpox consists of the inoculation with vaccine virus. This is smallpox virus which has been attenuated or reduced in its virulence by being grown in the tissues of the calf.

In spite of the unquestioned corroborated evidence from all parts of the civilized world regarding the protective value of vaccination against smallpox, there still persist organized antivaccination societies whose object is to influence popular opinion against this great preventive method. With an estimate that ten million persons in this country are unvaccinated, it may be expected that epidemics will appear as long as the public overlooks the advantages of vaccination.

The United States Public Health Service recommends vaccination in, 1, infancy; 2, school age; 3, early adult life; and 4, whenever smallpox threatens to become epidemic.

The best means of vaccinating against smallpox is the "multiple pressure" method recommended by the United States Public Health Service. The advantages of this method are: 1, Virus may be wiped off immediately: no waiting for wound to dry; 2, least painful method; 3, more rapid than any other effectual and safe method; 4, leaves practically no scar; 5, no opportunity for infection to develop because no wound.

RABIES

Prevalence.—The prevalence of rabies in this country is evident from the statistics gathered from thirty-four State Boards of Health. These State Laboratories reported 2,705 positive examinations of dog's heads and 6,118 persons to whom antirabic treatment was administered. In 1928 there were 106 cases of rabies reported in the United States, none of these occurred in the State of New Hampshire.

Nature.—Rabies is primarily a disease of dogs. The virus is carried into the saliva of the infected animal and the saliva may contain the virus as early as eight days prior to the appearance of symptoms in the animal.

Eradication.—One must not lose sight of the fact that the eradication of rabies in the human subject depends wholly upon the successful eradication of the disease from dogs. Experiments conducted by Japanese scientists and confirmed by investigators in the United States, Austria, and Uruguay have indicated that effective immunity lasting for one year can be produced in dogs by a single injection of vaccine. It remained for the State of Vermont to lead the way in pointing out an effective method of stamping out rabies. In March, 1927, a state law became effective which provided that all dogs within the state must be vaccinated against rabies before they can be licensed. If the legislators and governors of other states could have the courage and foresight to follow the lead of Vermont in this respect, rabies probably could be wiped out of the country in a short time.

Antirabic treatment.—Since rabies is invariably fatal, antirabic treatment should be started as soon as possible after the biting. The method now in use consists of fourteen doses which are administered subcutaneously either in the tissues of the anterior abdominal wall or the interscapular region. One dose is given daily, preferably late in the day when the person is not going to be active, so as to favor absorption. The vaccine consists of killed virus contained in the brain tissue of rabbits. All doses are alike and children receive the same dosage as adults.

TYPHOID FEVER

Prevalence.—During 1928 there were 27,198 cases of typhoid fever reported in the United States and fourteen cases in New Hampshire.

Vaccination.—This is indicated for, 1, those who travel or live in the country where sources of water, milk and food may be uncertain; 2, campers, lumbermen, civil engineers, industrial firms that employ large numbers of people; 3, nurses, house physicians and administration staffs of hospitals.

Immunity.—Duration is uncertain but seems to be at least two years, depending upon the amount of exposure. Protection is not absolute but while some cases do occur among the vaccinated, the number is small.

Kind of vaccine.—Originally, vaccine was prepared only from the Rawlings culture of typhoid bacillus. To protect against the unusual exposure due to mobilization of an army, a vaccine prepared from the typhoid and paratyphoid bacilli was adopted by the Medical Department of the United States Army and Navy during the World War.

Paratyphoid vaccine.—Experience has shown that exposure to paratyphoid infection is infrequent in this country, except in the Southern States. Also, that the typhoid-paratyphoid vaccine gives more frequent and severe reactions. Hence, since 1925, the United States Navy has adopted the plain typhoid vaccine and the War

(Continued on ad, page 20)

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Department has ordered a material reduction in the strength of the triple vaccine used for the Army.

Reactions.—Unless the person is to travel in the Southern border states or in Southern Europe, the plain typhoid vaccine is recommended for general civilian use. However, even with the typhoid-paratyphoid vaccine, reactions are largely avoidable because the usual three doses can be subdivided so that five doses at intervals of about five days are given. These smaller doses tend to minimize or even eliminate reactions.

COLDS

Prevalence.—Common colds are among the most frequent of all human illnesses, according to the United States Public Health Service. Figures furnished by the Metropolitan Life Insurance Company show that in 6,770 clerical employees, there were during one year 2,824 cases of common colds involving disability from work. Again, among 2,485 college students, twenty-three per cent had an average of four or more colds a year; sixty per cent had two or three colds and only seventeen per cent were either entirely free from colds or had only one cold in a year.

Many pneumonias begin as a common cold and pneumonia kills more people in the United States each year than any other disease with the exception of heart disease. Hence, it is important to protect the individual against the development of the common cold.

Cause.—The consensus of opinion at present is that colds are caused by microbic infection which occurs in one of two ways:

1. Rarely the infecting microbe may be of sufficient virulence to cause the infection in a large percentage of those persons who come in contact with it.

2. Usually, however, the infection is probably secondary to some predisposing cause which has temporarily lowered the individual's resistance and may be due to several bacteria rather than to one micro-organism.

Allen of London has shown that the bacteria most persistently found in colds are *Micrococcus catarrhalis*, the *Friedländer bacillus*, the pneumococcus, *Streptococcus hemolyticus*, *Streptococcus viridans*, *Staphylococcus albus* and *Staphylococcus aureus*. These bacteria may occur alone or in varying combinations. A few years ago extensive researches conducted under the auspices of the Metropolitan Life Insurance Company in New York indicated that no one species of bacteria is responsible in causing colds.

There has also been some evidence that the common cold may be caused by a filtrable virus, but the evidence is not conclusive.

Recently the cause of colds has also been ascribed to a change in the blood chemistry; it being reported that there is a decrease in the bicarbonates of the blood plasma and tissues. Also, that the secretions of the nose and throat in the common cold are found to be less alkaline than normal. Such findings would indicate a disturbance of the alkaline balance, in other words, a mild acidosis. If alkaline treatment is adopted, it should be supplementary and not depended upon as the sole means of treatment.

Seasons.—Infections of the upper respiratory tract are characterized by two seasonal periods of maximum incidence. 1. The first follows the advent of cold weather in the early fall, usually October. 2. A second and more important period occurs during the exceptionally cold weather likely to prevail during January and February.

Every sudden and distinct drop in the temperature is expected to carry with it a proportional increase in the number of cases of respiratory disease in a given community.

Vaccination.—The use of a combined vaccine, prepared from the germs commonly found associated with the common cold, is suggested to increase the person's resistance to the bacterial infection. Vaccination against colds is useful in the fall and again in the spring for persons who are subject to repeated attacks of colds. Immunization should raise the person's resistance so that the tendency to catch cold will be largely diminished, especially if the susceptibility to colds is due entirely to lowered resistance and is not associated with anatomical defects. The duration of immunity may last from a few months to a year.

Some clinicians give a course of vaccination against colds during the first part of October and then repeat the highest dose once in January, February and March in order to protect against the infection during the three months when the average person's vitality is at its lowest.

Clinical value.—In the Pittsburgh steel mills approximately ten thousand employees were vaccinated and ten thousand employees who were not vaccinated were used as controls. The following figures are based on those employees who lost over six-days' work as a result of the common cold:

In the vaccinated group, consisting of 8,897 persons, there were 468 who contracted colds and 46 of these developed pneumonia with 32 deaths.

In the nonvaccinated group, consisting of 10,035 persons, there were 1,532 who contracted colds, and 154 developed pneumonia with 106 deaths. In other words, there were about four times as many in the nonvaccinated group who suffered with colds and

more than three times as many deaths as occurred in the vaccinated group.

PNEUMONIA

Prevalence.—In 1928, there were 117,000 deaths from pneumonia reported in the United States and 434 deaths from this disease in New Hampshire. The incidence rate of pneumonia in the United States is slowly rising year by year as the population becomes more and more concentrated. As previously stated, the number of deaths from pneumonia in the United States each year is greater than that from any other disease, with the single exception of heart disease. Hence, the prevention of pneumonia is one of the most important health problems of the day.

Unfortunately, the disease does not lend itself to control by ordinary hygienic and sanitary measures. Infection is transmitted by direct or indirect contact, most frequently by the droplet route; and as long as people congregate in public places and in public conveyances where close contact is inevitable, just so sure will pneumonia continue to menace the public health. The greatest hope of preventing pneumonia lies in some method of immunization but it has been only within the last few years that any serious effort has been made along this line.

Vaccination.—Prophylactic vaccination against pneumonia is indicated for:

1. Persons who are very susceptible to pneumonia and suffer from repeated attacks.

2. Large groups of persons living together under abnormal conditions, such as recruits in time of war. (In the World War pneumonia was the most serious of all infections and caused the greatest loss of life.)

3. Industrial workers such as laborers, truck drivers, chauffeurs, firemen and policemen who are constantly exposed to cold and wet.

4. Nurses, physicians and relatives who come in contact with pneumonia patients.

Vaccine results.—Numerous statistical data are available to prove the value of vaccination against pneumonia. One of the most striking results was obtained at Camp Upton, New York, one of the American army training camps during the World War. Here, Cecil vaccinated 12,519 men against pneumonia who were observed for a period of ten weeks. During that time no cases of pneumonia occurred among the vaccinated men. In a control group of 20,000 men there were twenty-six cases of pneumonia during the same period.

Dosage.—Three doses are given at intervals of one week; the second and third doses being double the strength of the initial dose.

WHOOPIING COUGH

Prevalence.—In 1928, there were 161,799 cases of whooping cough reported in the United States and of this number 229 occurred in the State of New Hampshire.

There is no natural immunity to whooping cough, all are susceptible. At one time or another whooping cough affects almost every member of a community and causes more than 10,000 deaths yearly in this country. Whooping cough ranks third among the contagious diseases as a destroyer of child life. The greatest susceptibility is from six months to five years of age and more than one-half of the cases occur during the first two years of life. Susceptibility decreases with age but the disease may be seen in adult life and even in elderly people.

Vaccines.—Whooping cough vaccines have been in more or less general use for the past fifteen years and the published clinical reports from American, English, Italian, Japanese and Danish authors have stated that the vaccine is a helpful therapeutic measure.

Prophylaxis.—As a prophylactic the vaccine is reported to afford protection in eighty-five per cent to ninety per cent of cases. Even children who have been exposed to the disease for two or three weeks have been protected by the vaccine.

Treatment.—Clinical reports show that treatment, 1, lessens the severity of the paroxysms; 2, diminishes the vomiting; 3, lessens the possibility of complications (bronchopneumonia); 4, limits the mortality, and 5, reduces the duration of the disease to an average of about four weeks.

Clinical reports.—The value of the vaccine treatment of whooping cough is well illustrated by the following summary of Miller (1), formerly director, Division of Communicable Diseases, Health Department of Akron, Ohio:

"Experience seems to show that sufficiently large doses of Bordet bacilli establish a positive immunity against whooping cough and check the spread of the disease in the public schools.

"Whooping cough vaccine is the only therapeutic measure worthy of consideration in the treatment of the disease. Failures are due entirely to insufficient, timid dosage at too long intervals.

"I believe that public health authorities are justified in promoting immunization against whooping cough just as they are urging immunization against typhoid fever."

Vaccines.—Whooping cough vaccine is prepared by two

(Concluded on page 26)

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"The present work is admirable in all three respects (definition, etymology and pronunciation), it may be recommended to all in need of such a work."—*Canadian Journal of Medicine and Surgery.*

"Will prove a valuable addition to any medical library."—*U. S. Naval Medical Bulletin.*

"We have employed this medical dictionary steadily and with convenience in the course of producing a medical journal, with the result that we are able to commend it, as before, very highly to our readers."—*The Lancet (London).*

"A book which can be recommended unreservedly to students, nurses, specialists, general practitioners, all those working in fields related to medicine, and to the intelligentsia in general. In short, it is one of our indispensable tools."—*The Medical Times.*

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(Concluded from page 20)

methods, one using salt solution and the other using glycerol. When vaccine prepared with salt solution is used, many authors have emphasized the necessity for using freshly prepared vaccine because the germs in salt solution undergo rather rapid self-digestion or chemical decomposition whereby the specific immunizing properties of the bacteria may be largely lost.

Glycerol vaccines effectively preserve the antigenic or immunizing properties of the bacteria by preventing chemical decomposition. Hence, the glycerol vaccine retains the immunizing properties of a freshly prepared saline vaccine and will not deteriorate. The stability of the glycerol vaccine has been demonstrated by the investigations conducted in the Laboratories of the New York City Department of Health, wherein it was shown that the glycerol preparations of whooping cough vaccine showed no appreciable deterioration in antigenic power over a period of four and a half years.

For prophylaxis, three doses of vaccine are given at intervals of about three days. For treatment, the doses are given daily or every second day, depending upon the severity and frequency of the coughing paroxysms. The doses are progressively increased in strength for about five doses and then the highest dose is repeated either daily or every second day for a period of three or four weeks, or until the paroxysmal stage of the disease has been controlled.

The dosage is the same for all ages, infants and young children tolerating large doses of the vaccine with slight, if any, reactions. In fact, new born babies tolerate without any ill effects the maximum immunizing dose used for older children. In infants and children, the vaccine is preferably injected subcutaneously into the buttocks or into the anterior abdominal wall. In the case of adults, the injections may be given in the upper arm.—Ralph Oakley Clock, M. D., in *Med. J. and Record*, Aug. 20, 1930.

The Heart in Pregnancy

Married women with rheumatic heart disease die before their time because of the natural evolution of this disease rather than because of child-bearing.

This fact should be given consideration when advising women with heart disease regarding marriage and pregnancy.—W. D. Reid, M. D., in *J. A. M. A.*, Nov. 15, 1930.

Weather Bureau Aiding in Hay Fever Research

Progress in control of hay fever is expected from research in which the Weather Bureau, Department of Agriculture, is aiding. The task of the Bureau is to aid in taking an annual census of the number of ragweed pollen grains in the atmosphere. The census is taken by exposure of glass slides, coated with petrolatum, at about 25 weather stations of the Bureau in various parts of the country. The pollen grains adhere to the greased glass and are counted to determine the number of grains in a cubic yard of air. By the daily counts, the factors which affect the amount of pollen in the atmosphere may be determined.

Progress of Chemistry

Bacon wrote of a man who told his two sons of gold left buried in his vineyard. The boys found no gold, but vigorous work among the roots produced a plentiful vintage. So it is with the progress of chemistry. Out of attempts to transmute base metals into gold, which was the ambition of the alchemists of two centuries ago, have come wonders that stagger the imagination.

From the application of chemistry to pharmacy have resulted such products as Tablets Amytal, Lilly, the hypnotic and sedative; Amytal Compound, Lilly, for the relief of pain; and Pulvules Sodium Amytal, Lilly, a preliminary to anesthesia.

The chemistry of Iletin (Insulin, Lilly) is representative. The first commercial development of this product in the United States was a Lilly achievement in chemistry.

Chemistry contributed to the pharmacological work of Chen in making the alkaloids of Ma Huang available. Blood chemistry played a big part in the work done by Eli Lilly and Company on a certain fraction of liver that led to the marketing of Liver Extract No. 343, a specific in pernicious anemia and later to the development of Liver Extract No. 55 with Iron, indicated in the treatment of secondary anemia. The list could be extended to great length. In fact, it is claimed that Lilly progress can be attributed to research activities reaching back as far as the early eighties with the introduction of a Lilly line of standardized fluid extracts. Eli Lilly and Company, even in those early days, were apparently laying the foundation for the morrow, exemplifying the thought of Henry Ward Beecher: "We should so live that what came to us as blossom may go to the next generation as fruit."

MEDICAL BOOK NEWS

Edited by WILLIAM HENRY DONNELLY, M.D.

All books for review and communications concerning Book News should be addressed to the Editor of this department at 1313 Bedford Avenue, Brooklyn, New York.

JANUARY, 1931

REVIEWS

Diseases of the Skin

DISEASES OF THE SKIN. A Text-Book for Practitioners and Students. By George C. Andrews, A.B., M.D. Philadelphia and London, W. B. Saunders Company, 1930. 1091 pages, illustrated. 8vo. Cloth, \$12.00.

This is an extremely valuable, up-to-date text on Dermatology. The author has spared no pains in collecting all the data pertaining to his subject, from whatever source; and yet, in correlating all this he has not become verbose. The photographs throughout the text can scarcely be surpassed. The methods of treatment, whether they be by the application of drugs, electrotherapeutic measures, such as ultra-violet light, X-ray, etc., or radium, are quite definitely described, and are most complete. The bibliography, alone, has entailed a tremendous amount of work.

The reviewer heartily endorses this book as one deserving a place in any physician's library. E. ALMORE GAUVAIN.

Principles and Practice of Medicine

THE PRINCIPLES AND PRACTICE OF MEDICINE. Originally written by the late Sir William Osler, B.T., M.D. Eleventh Edition, revised by Thomas McCrae, M.D. New York and London, D. Appleton and Company, 1930. 1237 pages. 8vo. Cloth, \$8.50.

Dr. McCrae has again presented us with an Osler brought up to date. With a verbal economy as strict as that of the original author he has added or modified as the recent developments in medicine seemed to indicate. Mature readers will concur with his statement that "no two men could always agree as to which part or how much of the old should give way to the new." They will also probably continue to agree that this is the most valuable single volume on the subject.

As stated in the announcement, new subjects considered include: Melioidosis, Uveoparotid Fever, Bacillus faecalis, alkaligenes Infection, Exanthema Subitum, Poisoning from Radioactive Substances, Poisoning from Arseniuretted Hydrogen, Poisoning from Methyl Chloride, Hypoglycaemia, Asbestosis, Pentosuria, Subacute Leukaemia, Coronary Artery Aneurism, Macrogenitosomia Praecox, Myelophthisic Splenomegaly, Lipoid Histocytosis, Post-vaccinal Encephalitis, Encephalitis Periaxialis Diffusa, Centro-lobar Cerebral Sclerosis, Osteitis Fibrosa Cystica, Albers-Schonberg Disease, Spondylolisthesis, Defects in Membranous Bones with Exophthalmos and Diabetes Insipidus, Hypophysial Cachexia and Hemiballismus.

Subjects considerably altered or added to are: Undulant Fever, Diabetes Mellitus (including the use of Synthalin), Duodentis, Cardiospasm (Phrenospasm), Hemorrhagic Nephritis, Nephrosis, Nephritis in general Purpura (the various forms), Paroxysmal Cardiac Dyspnoea, Infantile Splenic Anaemia, Glossopharyngeal Neuralgia, and Compression Fractures of the Spine. T. H.

Reading in Psychology

READING IN PSYCHOLOGY. By Raymond H. Wheeler. New York, Thomas Y. Crowell Company, 1930. 397 pages. 8vo. Cloth, \$3.75.

The various readings in this volume which is for the beginner in psychology, is divided into various groups; e.g. those relating to social behavior, to intelligent behavior, emotive behavior, to learning, to reaction and observational behavior, and the nervous system. Most of the writers are teachers in various American Universities, and the subject matter has been presented with the care and thoroughness characteristic of the usual University teacher. The description of the Gestalt-psychology is a good example of this. Though brief, the nature of this psychological movement is clearly set forth. JOHN F. W. MEAGHER.

Practical Medical Dictionary

A PRACTICAL MEDICAL DICTIONARY. By Thomas Lathrop Stedman, A.M., M.D. Eleventh revised edition. New York, William Wood & Company, 1930. 1222 pages. 8vo. Flexible cloth, \$7.50.

The eleventh edition of this popular dictionary will be warmly welcomed by the medical profession. According to the publishers it is the only complete standard American dictionary with a new revised edition this year. The illustrations are adequate and there are many plates. A very valuable feature is the new bacteriological nomenclature, with cross references giving the more familiar names. This dictionary is an excellent guide for one who is uncertain, at times, on such points as whether or not to use a terminal e in spelling such words as quinine, strepnanthin, iodine, etc., or a k or c in such words as leucocyte, leucorrhea, etc. There is a very full table of drugs in the appendix, not to speak of other useful information. A highly authoritative guide to medical orthography and a fine example of scholarship. A. C. J.

Diseases of the Nose, Throat and Ear

DISEASES OF THE NOSE, THROAT AND EAR. By William L. Ballenger, M.D., F.A.C.S. Sixth Edition, thoroughly revised. Philadelphia, Lea & Febiger, 1930. 1138 pages, illustrated. 8vo. Cloth, \$11.00.

The latest edition of this work maintains the high standards of its predecessors and adds several improvements. For some years past this book has been considered the most popular and most valuable textbook of its kind in this country. With its added features this position of favor is continued.

Although originally designed for the general practitioner and the student, the present volume requires little more to make it a comprehensive guide book for the specialist. Worthy of special mention are the new chapters or revised ones by Dr. Lewy on the Ear, Dr. Tucker and Dr. Jackson on Bronchoscopy and Esophagoscopy. There are numerous fine illustrations in the almost 1200 pages. Obsolete procedures have been eliminated and it is to be noted that both the author and his publishers have exerted themselves to make this edition as thoroughly modern and up to date as is possible.

The author and his publishers are to be congratulated upon the high standards they have set in this volume. M. C. M.

Trauma, Disease, Compensation

TRAUMA, DISEASE, COMPENSATION. A Handbook of Their Medical-Legal Relations. By A. J. Fraser, M.D. Philadelphia, F. A. Davis Company, 1930. 524 pages. 8vo. Cloth, \$6.50.

The author has presented a book which indeed supplies a much needed work. The problem of trauma, disease and compensation in our present machine age has become stupendous. The immensity of the problem quite naturally has led to embarrassing confusion when medical-legal-sociological solutions were attempted. The book is a thorough, scholarly compilation of court opinions, court decisions, as well as expert medical opinion.

The work should be gratefully welcomed both by the doctor who is called as a medical witness as well as by the lawyer who is to examine him.

The following subjects are treated in the book: Basis and scope of the Workmen's Compensation, Injury and Disease of the Brain and Nervous System, Injury of the Heart and Circulation, The Gastro-Intestinal Tract, Injury and Disease of the Respiratory System, The Genito-Urinary System, Injury and Disease of the Bones and Joints, Injury and Disease of the Muscles, Tendons and Bursae, Injury of the Eye and Ear, Injury and Disease of the Skin, Occupational, Malignant, Glandular and Infectious Diseases, and The Rating of Permanent Disability. G. I. SWETLOW.

Mycoses of the Spleen

THE MYCOSES OF THE SPLEEN. By Alexander G. Gibson, M.D., F.R.C.P. New York, The Macmillan Company, 1930. 169 pages. 8vo. Cloth, \$4.50.

In this work the author presents a well prepared argument for the mycelial origin of a certain group of splenic diseases including splenic anemia, hemolytic jaundice and a mixture of clinical pathological conditions grouped under the term of Banti's disease.

Although the main theme of his thesis may not be acceptable, this small volume contains much valuable information regarding the clinical and pathological aspects of these diseases. This portion of the book is well worth reading. The latter sections of the book include morphological and cultural descriptions together with experimental work of the mycelia which are accused of being responsible for certain splenomegalies by the author.

Although the contents are more or less of a highly specialized nature, the little volume represents a very valuable addition to our literature on diseases of the spleen.

MAX LEDERER.

A Memoir

J. GEORGE ADAMI: A Memoir. By Marie Adami. London, Constable & Co. Ltd. & New York, Richard R. Smith, Inc., 1930. 179 pages, 8vo. Cloth, \$3.50.

This delightful memoir of Prof. Adami by his wife, Marie Adami, together with contributions from others, his friends, and an introduction by Sir Humphrey Rolleston, will appeal to all of us who knew him personally while he was here in America and who felt the influence of his character and work. As a record of a fine life, well spent in intensive work in the field of Pathology and in unselfish service for others, especially students and soldiers in the late war, this book is full of interest and example for those who are lovers of strong character and men who accomplish things in the face of difficulties, at times seemingly insurmountable.

Adami was a prolific writer, terse, forceful and philosophic. His General Pathology is a standard and his thirty-eight publications on many scientific subjects have made their imprint on the best minds of his time. The book contains a chronological list (1862-1926) of his writings and has value for reference.

In these days of kaleidoscopic changes, when the whole civilized world seems to be in a state of touch-and-go, much comfort can be derived from the life history of a man who was not swayed by every breeze that blows, but who thought straight, was a bundle of sunshine, beloved of all who knew him and a born optimist. We all need just such volumes on our shelves. J. M. VAN COTT.

Harvey W. Wiley, An Autobiography

HARVEY W. WILEY. An Autobiography. Indianapolis, The Bobbs-Merrill Company, 1930. 339 pages, illustrated. 8vo. Cloth, \$5.00.

The story of a great crusader, who almost single-handed and against the sinister opposition of organized trusts, made the ideal of pure food and drugs a fact. Medicine is proud of him.

Dr. Wiley's autobiography is written in a most entertaining style. You can almost see the twinkle in his eye as he tells you how he addressed a hostile convention of food canners, expecting to be mobbed but leaving amid wild applause; how President Roosevelt backed him up when he objected to sodium benzoate in food but called him an idiot when he said that saccharin is injurious; and how he described his future bride in terms of a chemico-metrical madrigal, while waiting for a slow filtrate to pass through in the chemical laboratory.

Since his retirement from the Department of Agriculture in 1912 until 1929, Dr. Wiley continued his active efforts to promote the cause of pure foods, serving on the editorial staff of the leading health magazine, Good Housekeeping. At the age of 85 he was still in harness. Truly a remarkable life of achievement, judged by any standards.

FREDERIC DAMRAU.

Tropical Medicine in the United States

TROPICAL MEDICINE IN THE UNITED STATES. By Alfred C. Reed, M.D. Philadelphia & London, J. B. Lippincott Company, 1930. 410 pages, illustrated. 8vo. Cloth, \$6.00.

Tropical medicine is defined by the author as the practice of medicine in hot climates.

This is a carefully written, well presented work upon the diseases found in the tropics. It is divided into protozoal, spirochetal, bacillary, helminthic diseases; of diseases of unknown etiology, as yellow fever, dengue, sand-fly fever, typhus group, sprue and others less common; of mycotic disease, of metabolic disease as beriberi and pellagra; of arthropod parasites, and a few miscellaneous conditions.

Thus it is readily seen that this volume contains much of value. It is accurate and gives the information as briefly as is consistent with a clear presentation of the subject. It contains much that all who practice medicine anywhere should know.

From the publishers point of view the work is excellent, large print, good paper and pictures which illustrate clearly the diseases described.

HENRY M. MOSES.

Clinical Aspects of Venous Pressure

THE CLINICAL ASPECTS OF VENOUS PRESSURE. By J. A. E. Eyster, B.Sc., M.D. New York, The Macmillan Company, 1929. 135 pages. 8vo. Cloth, \$2.50.

Clinical Aspects of Venous Pressure is a well-written and logical presentation of the dynamics of the circulation. Venous pressure is determined by cardiac activity. The amount of blood expelled is directly proportional to the degree of relaxation and the extent of contraction of the ventricular musculature.

When the amount expelled from the left ventricle is equal to the amount of blood received from the right heart, the heart is efficient. In heart failure, the increased venous pressure overloads the right heart and the lesser circulation, the left ventricle lags in its work and pulmonary oedema develops. The great value in obtaining a measure of the venous pressure, lies in the fact that an abnormal increase in the venous pressure is the first sign of an impending cardiac failure. This is true for the cardiac patient and also for the failing heart in pneumonia.

Although restricted to a rather limited field, the book is valuable to those who like to know why things happen.

SIMON FRUCHT

Genetics and Eugenics

GENETICS AND EUGENICS. A Text-Book for Students of Biology and a Reference Book for Animal and Plant Breeders. By W. E. Castle. Fourth Revised Edition. Cambridge, Harvard University Press, 1930. 474 pages, illustrated. Octavo. Cloth, Price \$3.00.

This is the fourth edition of this well known work in which the more recent advances in our knowledge of human heredity have been incorporated. In its present form it becomes more than a text book for students, more of a book that everyone interested in the betterment of the human race can find much that is interesting and instructive.

The work has been divided into four parts which follow a natural sequence.

Part I includes the Biological Basis of Genetics and stresses the part played by Chromatin as the directing agency of life.

Part II deals with the historical development of Genetics and explains the theories of Darwin, Lamarck, Weismann and Spencer finally describing Mendel's work.

Part III contains several chapters on the essential facts of Genetics and the application of Mendel's principles to animal and plant breeding. Chapters well worth reading and of special interest to breeders and planters.

Part IV deals with Eugenics as applied to the human race, and also explains the calculation of Mendelian expectations.

Altogether it is a most entertaining book.

G. G.

Varicose Veins

VARICOSE VEINS. With Special Reference to the Injection Treatment. By H. O. McPheeters, M.D., F.A.C.S. 2nd revised and enlarged Edition. Philadelphia, F. A. Davis Company, 1930. 233 pages, illustrated. 8vo. Cloth, \$3.50.

The second edition of this work, appearing in 1930, containing 233 pages with 45 illustrations, is well bound, printed on good paper, and is easily read. There is little to discuss at this time concerning the treatment of choice of varicose veins. It is accepted without debate, all factors being considered that the treatment par excellence is the injection method. The reviewer is associated with a varicose vein clinic in this town and agrees almost without exception with the ideas and technique as expounded by Dr. McPheeters. Injection of veins is being used so extensively that it is of the greatest importance that a thorough understanding of the pathology and the method of handling these cases be familiarized in great detail by those contemplating its use. Dr. McPheeters' book is highly recommended as a guide for all those physicians who are using this method of treatment.

M. N. FOOTE.

Dietary of Health and Disease

THE DIETARY OF HEALTH AND DISEASE. By Gertrude I. Thomas. Second Edition, thoroughly revised. Philadelphia, Lea & Febiger, 1930. 276 pages, illustrated. 12mo. Cloth, \$2.50. (The Nurses Text Book Series.)

This book is one of the Nurses Text Book Series, and it is a second edition which has been thoroughly revised. Its purpose is "to provide an intermediate text which will serve as a basis for instruction in schools of nursing and in departments of home economics." With this point of view it gives the essentials of food chemistry, food preparation, and diet therapy; it is particularly explicit in its tables and food values, charts and measurements, and preparation, care and handling of foods. Its abridgment lies in the matter of long diet lists, and detailed consideration of the diet in the various diseases, which is an excellent quality for a short text. This does not mean that these matters have been omitted, but that a brief statement is given instead of a long and detailed argument. It will be useful to any nurse or doctor or in any home.

L. C. JOHNSON.

Microbiology

MICROBIOLOGY. By Benjamin Franklin Lutman. 1st Edition. New York, McGraw-Hill Book Company, Inc., 1929. 495 pages, illustrated. 8vo. Cloth, \$4.00.

This work on microbiology is a welcome and much needed addition to the rather limited number of books that have been published in this field. It is excellently written and arranged, well illustrated, and, though intended primarily as a class-room text for students of botany and agriculture, it contains a great deal that is valuable and stimulating to those interested in other fields of bacteriology.

The first six chapters are devoted to such general matters as the morphology and chemical activities of the yeasts, molds, and bacteria, and the methods used in studying them. This section includes, among other matters, an excellent description of the ultramicroscope and its uses, and a briefer description of two types of micromanipulators. Two chapters are devoted to the carbon and nitrogen cycles.

The great bulk of the book is devoted to the detailed discussion of 25 to 30 "type species" of organisms. The prototrophic bacteria, yeasts, certain molds, and a number of diverse species of bacteria are described very completely, emphasis being placed on morphology and chemical and biological activities. Many of these species, though important in general microbiology, are not even mentioned in the usual text-book of bacteriology for medical students. There are numerous illustrations and tables; each chapter is followed by a list of references.

The book concludes with several excellent chapters on the flora of soil, air, water, and milk; the problem of pathogenicity; structure and classification of organisms; disinfection; mutation of species and the bacteriophage.

ARNOLD H. EGGERTH.

Brain Mechanisms and Intelligence

BRAIN MECHANISMS AND INTELLIGENCE. A Quantitative Study of Injuries to the Brain. By K. S. Lashley. Chicago, The University of Chicago Press, 1929. 186 pages, 1/2 illustrated. 8vo. Cloth, \$3.00.

This is the first publication of the Chicago group of investigators working on the problem of behavior. A monograph of 175 pages with many illustrations, presenting clearly the results obtained relative to learning and retention in the rat following cerebral insult. In brief the conclusions were that the capacity to form habits is reduced by destruction of cerebral tissue, this reduction being roughly proportional to the amount of destruction. The results are incompatible with theories which assume that particular neural integrations are dependent upon anatomical paths specialized for them.

The work is a distinct step forward toward the solution of this "problem."

JEFFERSON BROWDER.

Health Essays

HEALTH ESSAYS. By Horace W. Soper, M.D., Boston, The Gorham Press, 1930. 41 pages. 12mo.

This is a "read-as-you-go" book—very pleasant and easy to assimilate.

The ideas propounded are, of course, individual—rather than of general use.

It is typically written from an essay standpoint. It would make a very nice half hour's talk to young people.

J. J. W.

A Text-Book of Pathology

A TEXT-BOOK OF PATHOLOGY. Edited by E. T. Bell, M.D., Philadelphia, Lea and Febiger, 1930. 627 pages. 8vo. Cloth, \$8.00.

Edited by Bell, and written by six of the leaders (including Bell himself) in this field, the student of this book will find the best of our current knowledge of pathology in well ordered form. The aim of the work is to give the medical student the essential facts about disease processes, so classified as to correspond to clinical entities and at the same time be based on etiology and pathology. In other words, structural changes in disease are brought into close relation with the problems of clinical teaching. The authors and editor-author are to be congratulated upon the highly successful attainment of their cooperative objective. Such a well balanced, comprehensive and authoritative work should be a fine asset in the practitioner's library as well as in the student's, since successful practice depends upon such fundamental knowledge of the nature and causes of disease.

A. C. J.

Personal and Community Health

PERSONAL AND COMMUNITY HEALTH. By Clair E. Turner, M.A., Dr.P.H. Third Edition. St. Louis, C. V. Mosby Company, 1930. 443 pages. 8vo. Cloth, \$2.75.

Designed principally for university and normal school students, this book covers the subject of personal and community health in a satisfactory and authoritative way. The style is simple and lucid, so as to make easy reading for the non-technical student who is not familiar with medical terms or subjects.

FREDERIC DAMRAU.

Handbook of the Mosquitoes of North America

A HANDBOOK OF THE MOSQUITOES OF NORTH AMERICA. Their Structure—How They Live—How They Carry Disease—How They May Be Studied—How They May Be Controlled—How They May Be Identified. By Robert Matheson. Springfield, Ill., Charles C. Thomas, 1929. 288 pages, illustrated. 8vo. Cloth, \$5.50.

This "Handbook of the Mosquitoes of North America" covers 268 pages of text and an index, numerous illustrations in the text and 25 plates. There is also a full list of references. It is divided into seven chapters which treat of the mosquito as follows: 1. Characteristics; 2. Biology; 3. Relation to Human Welfare; 4. Problems of Mosquito Reduction; 5. How to Collect, Rear and Preserve; 6. A Systematic Account of North American Mosquitoes; 7. The Tribe Culicini. From an entomological standpoint the book is valuable for those making a special study of the subject, as it is succinct and clearly written. To the medical practitioner it offers excellent opportunity for acquiring practical knowledge of the habits, life and mode of transfer of pathogenic parasites to man by one of the greatest pests known to the human family. It really appeals to one as a book filling a long-felt need for those who lack entomological training and yet seek comprehensive knowledge of a subject too little understood by the generality of physicians, which is all important in their daily contact with sick people. For field workers in health departments it should prove truly invaluable.

J. M. VAN COTT.

Diseases of the Eye

DISEASES OF THE EYE. By Sir John Herbert Parsons, C.B.E., D.Sc., F.R.C.S., F.R.S. Sixth Edition. New York, The Macmillan Company, 1930. 678 pages, illustrated. 8vo. Cloth, \$5.50.

In the four years since the appearance of the fifth edition of this admirable work, ophthalmology has been passing through a period of consolidation. There has been a boiling down and a rearrangement of a vast amount of material provided by studies with a corneal microscope, fundus camera, ultra-violet light therapy, etc. Besides incorporating this material in the sixth edition, Parsons has added to the diagrams and illustrations, so that the reviewer feels it is now the best illustrated book of its sort.

It is a work particularly worth while to every American physician because it presents the material from the English viewpoint, which being slightly different from our own, adds a charm to the text which is very helpful.

J. N. EVANS.

Handbook of Anatomy

HANDBOOK OF ANATOMY. Being a Complete Compend of Anatomy. By James K. Young, M.D., F.A.C.S. Seventh Edition. Revised by George W. Miller, M.D., F.A.C.S. Philadelphia, F. A. Davis Company, 1930. 460 pages. 8vo. Cloth, \$3.75.

This is the seventh revised edition of a well known and deservedly popular compend. Its aim is to lighten the labor of the student of medicine, but the practitioner will also find it a handy little work to refresh his memory upon occasion. The Basle nomenclature, in Latinized form, is consistently used in text, plates and index, and has the primary place when followed by the older terms. There are 154 engravings, some in colors. A. C. J.

Tobacco

TOBACCO. By Walter L. Mendenhall, M.D. Cambridge, Harvard University Press, 1930. 69 pages. 16mo. Cloth, \$1.00. (Harvard Health Talks.)

A delightful booklet, and an hour's easy reading. It begins with an ode, and ends with a brief bibliography. A dash at history, some tables, discussion of effects, notably of cigarettes, and opinions pro and con. In moderation not harmful, though he flunks at what constitutes inordinate use or needful rules for guidance.

His experiments showed no effect on normal sensitivity, but a help back to normal when either heightened or the opposite— which can be correlated with its soothing influence.

Popular works are less exact, and may even have pap for the light-minded. Stable fads must be accepted, with a gesture of judiciousness. No harm to say that nicotine experiments on rats fail to show any growth-retardation. Also the popularism that men and women are alike, though biologists recognize sex-linked characteristics, and clinicians know that for very practical reasons personal habits are less controllable in women.

Statistics of smokers at colleges do not warrant inferences usually drawn. Logically the reverse is quite as probable. These youngsters more likely had wrong tendencies before they ever saw college or H. S.—defective inhibition, poor heredity, lax rearing, too much pocket money, bad associates (and this ilk tends to link up), irresponsibility, etc. As some of the smokers rank well in scholarship other factors may be dominant.

He speaks of the tobacco problem. True, it is a habit; but so is sleeping or eating. He concludes that the individual must decide whether "its pleasures outweigh its possibilities of evils," not thus recognizing any redeeming possibilities. His desire to see excesses corrected is most laudable and timely. And this number

speaks well for the "Harvard Health Talks" of which it is No. 17.
W. BROWNING.

Treatment by Manipulation

TREATMENT BY MANIPULATION. A Practical Handbook for the Practitioner and Student. By A. G. Timbrell Fisher, M.C., F.R.C.S. Being the 2nd Edition of "Manipulative Surgery." New York, The Macmillan Company, 1929. Cloth, \$3.50.

This author, well known to readers of English books, publishes in this, his second edition, many valuable methods to be used where closed manipulation is desired. He brings before the profession the dangers in manipulation when attempted by inexperienced persons, who are not grounded in the fundamental necessities of anatomy, physiology and pathology of the osseous system.

A special chapter deals with the management of arthritis by manipulation, when and how it should be carried out.

Illustrations of procedures and cross-section diagrams of all the major points of the body show pathological abnormalities and why careful manipulation prevents this class of patient from becoming bedridden.

Finally the after-treatment is emphasized, i.e., to start a joint moving voluntarily as soon as possible, following a manipulation and complete muscular relaxation.

JOSEPH I. NEVINS.

Laboratory Medicine

LABORATORY MEDICINE. By Daniel Nicholson, M.D. Philadelphia, Lea and Febiger, 1930. 433 pages. 8vo. Cloth, \$6.00.

Dr. Nicholson's book is of the sort which impresses one favorably at once and the impression gives place to a conviction of excellence upon more careful scrutiny. The tests which have proved most useful in many years of clinical laboratory work and general medical practice, and which require the least amount of apparatus, are presented, with their indications, technic and interpretations, for the benefit of both student and practitioner. In other words, it is a selective type of laboratory guide, stressing quality, not mass production. Many of the tests are so simple that they can be done at the bedside. It is an eminently practical guide—exactly what the practitioner needs. Recommended without reservations.

A. C. J.

Nutrition

NUTRITION. By J. Arthur Buchanan, M.D. Boston, Richard G. Badger, 1930. 149 pages. 12mo. Cloth, \$2.00.

Nutrition, a word not found in the Century Dictionary, is described by the author as follows: As a consequence of the need of food, the pathway of civilization has been marked by an interest in food until the collection of data is such that the subject ought to be known as a science under the name of nutrition. This study is a carefully prepared expression of the author's views and experiences in the treatment of those diseases in which the diet is of importance.

He describes the chemistry of foods and their disposition in the body. He gives in detail the use of foods in the treatment of diabetes mellitus, in peptic ulcer, and the infections.

Various types of diets are given. This is a presentation of thoughtful consideration of diet in disease, and will repay careful study.

HENRY M. MOSES.

Behavior of Health

THE BEHAVIOR OF HEALTH. By Dr. N. A. Ferri. Chicago, Advance Publishing Co. 209 pages. Cloth, \$2.50.

In this book we have another product of behaviorism, to which school belong such men as Dr. Watson, Pavlov, etc. If the mind be defined "as behavior to stimuli, response to environment, which calls into action the entire neuro-muscular system," as Dr. Ferri would define it, then it seems logical to suppose that man could be much healthier and happier by the application of *ideas through suggestion*. If we believe with Dr. Ferri that life is a series of conditioned reflexes, which will soon disappear if not continually practiced, it is easy to understand how life could be made more enjoyable by relegating all unhappy experiences to oblivion, and making room in our microcosmos, the mind, only for ennobling ideas. It seems unquestionable that one's physical well-being is tremendously influenced by the status of one's mind; witness the havoc played in the human being by fear, worry, melancholy, etc., in contrast to the ecstasy of equanimity evoked by confidence, indifference, happiness, etc.

The author has given us a large store of food for thought and what he says is worth being acted upon by the digestive enzymes of the cerebrum.

G. J. B.

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgement of receipt has been made in this column.

A PRIMER FOR DIABETIC PATIENTS. By Russell M. Wilder, M.D. Fourth edition. Philadelphia and London, W. B. Saunders Company, 1930. 138 pages, illustrated. 12mo. Cloth, \$1.50.

A TEXT-BOOK OF MEDICINE. By American Authors. Second edition revised and edited by Russell L. Cecil, A.B., M.D. Philadelphia and London, W. B. Saunders Company, 1930. 1592 pages. 8vo. Cloth, \$9.00.

SURGICAL CLINICS OF NORTH AMERICA. Volume 10, Number 5 (Pacific Coast Surgical Association Number). October, 1930. Issued serially, one number every other month by the W. B. Saunders Company, Philadelphia and London. Per Clinic Year (6 nos.), Paper, \$12.00; Cloth, \$16.00.

A TEXT-BOOK OF GYNECOLOGY. By Arthur Hale Curtis, M.D. Philadelphia and London, W. B. Saunders Company, 1930. 380 pages, illustrated. 8vo. Cloth, \$5.00.

LEGAL MEDICINE AND TOXICOLOGY. By Ralph W. Webster, M.D. Philadelphia and London, W. B. Saunders Company, 1930. 862 pages, illustrated. 8vo. Cloth, \$8.50.

CANCER OF THE LARYNX. By Sir St. Clair Thomson, M.D. & Lionel College, M.B., New York, The Macmillan Company, 1930. 344 pages, illustrated. 8vo. Cloth, \$7.00.

HANDBOOK OF PEDIATRIC PROCEDURES. By Francis Scott Smyth, M.A. & Edith I. M. Irvine-Jones, M.B., New York, The Macmillan Company, 1930. 212 pages. 12 mo. Cloth, \$2.50.

DIATHERMY MEDICAL AND SURGICAL IN OTO-LARYNGOLOGY. By Dan McKenzie, M.D. New York, The Macmillan Company, 1930. 184 pages, illustrated. 8vo. Cloth, \$4.00.

PROBLEMS AND METHODS OF RESEARCH IN PROTOZOLOGY. (By various contributors.) Edited by Robert Hegner and Justin Andrews. New York, The Macmillan Company, 1930. 532 pages, illustrated. 8vo. Cloth, \$5.00.

THE TREATMENT OF CHILDREN'S DISEASES with special formulas and drugs for childhood, and a short diagnostic summary of each clinical picture. By F. Lust, M.D. Authorized translation of the sixth German edition with additions by Sander A. Levinsohn, M.D. Philadelphia and London, J. B. Lippincott Company, 1930. 513 pages. 8vo. Cloth, \$8.00.

DISEASES OF THE EAR. By Philip D. Kerrison, M.D. Fourth edition. Philadelphia and London, J. B. Lippincott Company, 1930. 627 pages, illustrated. 8vo. Cloth, \$7.50.

PRACTICAL TREATISE ON DISEASES OF THE DIGESTIVE SYSTEM. By L. Winfield Kohn, M.D. Two volumes. Philadelphia, F. A. Davis Company, 1930. 1125 pages, illustrated. 8vo. Cloth, \$12.00.

INTESTINAL TOXEMIA (Auto-intoxication) BIOLOGICALLY CONSIDERED. By Anthony Bassler, M.D. Philadelphia, F. A. Davis Company, 1930. 433 pages, illustrated. 8vo. Cloth, \$6.00.

HANDBOOK OF ANATOMY. Being a Complete Compend of Anatomy. By James K. Young, M.D. Seventh revised edition by George W. Miller, M.D. Philadelphia, F. A. Davis Company, 1930. 400 pages, illustrated. 8vo. Flexible cloth, \$3.75.

THE MEDICAL RECORD VISITING LIST or PHYSICIANS' DIARY for 1931. Revised. New York, William Wood & Company, 16mo. Flexible Cloth, \$2.00.

SENSATION and the SENSORY PATHWAY. By John S. B. Stopford, M.D. New York, Longmans, Green and Company, 1930. 148 pages, illustrated. 8vo. Cloth, \$3.00.

ENZYMES. By J. B. S. Haldane, M.A. New York, Longmans, Green and Company, 1930. 235 pages, illustrated. 8vo. Cloth, \$5.50. (Monographs on Biochemistry.)

EDWARD JENNER and the DISCOVERY OF SMALLPOX VACCINATION. By Louis H. Roddis. Reprinted from The Military Surgeon, Vol. 65, Nos. 5, 6; and Vol. 66, No. 1. Menasha, Wis., George Banta Publishing Company, 1930. 155 pages, illustrated. 12mo. Cloth, \$1.00.

THE FIRST YEAR OF LIFE. By Charlotte Bühler. Translated by Pearl Greenberg and Rowena Ripin. New York, John Day Company, 1930. 281 pages, illustrated. 8vo. Cloth, \$3.50.

THE BEHAVIOR OF YOUNG CHILDREN. By Ethel B. Waring and Marguerite Wilker. Edited by Patty Smith Hill. New York, Charles Scribner's Sons, 1929. 121 pages. 12mo. Cloth, \$1.00. (Series on Childhood Education.)

THE BEHAVIOR OF YOUNG CHILDREN: Dressing—Toilet—Washing. By Ethel B. Waring and Marguerite Wilker. Edited by Patty Smith Hill. Volume 2. New York, Charles Scribner's Sons, 1930. 151 pages. 12mo. Cloth, \$1.00. (Series on Childhood Education.)

SANATORIUM. By Donald Stewart. New York and London, Harper & Brothers, 1930. 306 pages. 12mo. Cloth, \$2.50.

DOCTORS AND SPECIALISTS. A Medical Revue with a Prologue and a Good Many Scenes. By Morris Fishbein, M. D. Indianapolis, The Bobbs-Merrill Company, 1930. 118 pages, illustrated. 12mo. Cloth, \$1.00.

WARREN'S HANDBOOK OF ANATOMY. By John Warren, M.D. Text by Robert M. Green, M.D. Cambridge, Mass., Harvard University Press, 1930. 384 pages, illustrated. 4vo. Cloth, \$12.50.

TREATMENT OF EPILEPSY. By Fritz B. Talbot, M.D. New York, The Macmillan Company, 1930. 308 pages. 8vo. Cloth, \$4.00.

MEDIZINAL-INDEX und Therapeutische Vademecum. Hrsg. von Dr. M. T. Schnirer 33. Ausgabe 1931. Teil 1 & 2. Leipzig, Franz Deuticke, 1931. 402 & 224 pages. 16mo. M. 4.00 & S.6.90.

AN INTRODUCTION TO MALARIOLOGY. By Mark F. Boyd. Cambridge, Harvard University Press, 1930. 437 pages illustrated. 8vo. Cloth, \$5.00.

The Future of Medicine

American medicine, through its organization, has taken a definite stand against mass production and mass distribution of medical services. It proposes, from its study of the individual, a physician for the future who will continue to offer his services to human beings as such and not to human machines. The law and education must increasingly devote their organizations to a defense of the same principle.—Morris Fishbein, M. D., in the *Practitioner*, Nov., 1930.

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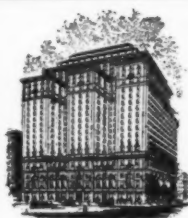
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Painters Found Least Liable to Fatal Accidents

Liability to fatal accident is greatest among occupational groups of linemen and cable spicers in electric light and power plants, oil and gas field rig builders and handlers of explosives and for underground coal and iron miners, according to a statement issued by the Illinois State Department of Public Health.

Painters incur the least liability to fatal accidents and then follow machinists, automobile demonstrators, and molders, founders and casters of iron and steel.

Health Commissioner Wynne on Preventive Possibilities

One million cases of malaria in the United States each year could be prevented. Seven hundred thousand persons who are ill with tuberculosis could have been saved from contracting that disease.

The thirty thousand to one hundred thousand cases of small-pox each year throughout the country are due to just plain, outright carelessness and ignorance. The eighty-nine thousand cases and eight thousand three hundred deaths from diphtheria in 1928 were unnecessary.

Colds and Calcium Deficiency

Four out of ten men and seven out of ten women get colds twice a year, according to statistics published by the Chemical Foundation, which is investigating the causes of colds. In fact the bulk of a physician's practice from October to March has to do with the treatment of colds.

It is now generally known that colds are accompanied by a lowered calcium metabolism. Accordingly those doctors whose habit it is to prescribe a reconstructive in cases of common coryza, now use a calcium type tonic. Furthermore, they select a tonic where the calcium is present in glycerophosphate form, because a maximum amount of the salt is thus available to the patient.

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Doctors also recommend Hagee's Cordial in other conditions involving calcium deficiency, such as anemia, pregnancy, lactation, and convalescence.

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Histamine

Histamine, which at one time was looked upon as a gastric hormone, belongs to the group of humoral stimuli. Special experiments were performed in our laboratory by Dr. A. M. Vineberg to establish the character of the secretion produced by histamine and the properties of the "histamine" gastric juice. In the accompanying Table are presented the results from one of a series of analogous experiments on a dog with a Heidenhain pouch. (A very few vagal fibres still supplied this pouch with parasympathetic innervation, reaching it probably by way of the blood vessels and mesentery). The subcutaneous injection of 1 mg. of histamine was followed in half an hour by the subcutaneous injection of 7 mg. of pilocarpine. This procedure made it possible to observe first the secretion produced by a "humoral" stimulus alone, i. e., by histamine, and then, on the addition of pilocarpine, the effect of the activity of the parasympathetic nervous system. The results of the combined action of the two different stimuli were striking. After the injection of histamine there was a rise in the volume of juice secreted, in the acidity, and in the concentration of chlorine. The peptic power of the juice fell rapidly to 16 per cent of the initial value (in sample No. 4, which was still chiefly due to the action of histamine). The influence of pilocarpine was manifested in a certain increase in the volume of the secretion. It did not appreciably change the concentration of chlorine, and only slightly lowered the total and free acidity of the juice, but it increased the peptic power enormously (about 17 times). After salivation stopped, the gastric secretion returned to almost the same level as during the control hour (sample No. 1). The concentration of chlorine and the acidity were again diminished, but the peptic power continued to rise and reached the extremely high level of 900 Mett's units. Such high peptic values had been previously observed by Dr. Vineberg only when he stimulated rhythmically the vagi in the neck of a dog under an anæsthetic. Under these conditions the high digestive power of the gastric juice very often coincided with a small volume and low acidity. Therefore, in the experiment quoted above, it is seen that during the last hour (samples Nos. 8 and 9) pilocarpine still continued to act on the peptic glands. The drug, however, activates chiefly the secretion of enzymes, and in a much lesser degree the production of the liquid parts of the juice and of acid.

A dog with a Heidenhain pouch was specially chosen for these

experiments. The almost complete absence of central parasympathetic impulses made it easier to separate the humoral and the nervous influences. Quite analogous results, however, were obtained in a dog with a Pavlov pouch having the parasympathetic innervation intact. Dr. Vineberg found that, following the subcutaneous injection of 1 mg. of histamine in this dog, the digestive power of the juice rapidly diminished.

In accordance with the results of previous investigators (Popielski in 1920, and many others; see, for example, Lim, Ivy and McCarthy), Dr. Vineberg found that the volume of the secretion from histamine was only a little affected by the subcutaneous injection of atropine (2 mg. of atropine in a dog of ca. 16 kilos with a Heidenhain pouch). He also observed that the typical fall in the digestive power during the histamine secretion was not changed at all by atropine. Therefore, his experiments with atropine, and also those of other investigators with a denervated gastric pouch and stomach, afford evidence that the action of histamine on the gastric glands is independent of the secretory nerves. It stimulates an active production of the fluid parts of the gastric juice and of hydrochloric acid, acting presumably on the parietal cells of the gastric glands. There is no active production of enzymes under the influence of histamine; it seems that they are only "washed out" from the glands. In other words, histamine does not have the "trophic" effect on the peptic and mucoid cells which is characteristic of the drugs stimulating the parasympathetic nervous system, or of the impulses reaching the glands through the parasympathetic nerves. Thus histamine belongs to the class of humoral stimuli, activating only certain cytological elements of the gastric glands.—B. P. Babkin, M.D., D.Sc., F.R.C.S., in *Canad. Med. Assn. J.*, Aug., 1930.

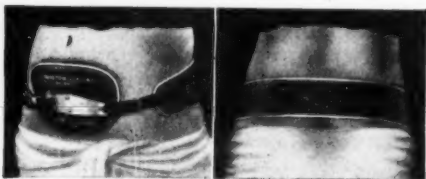
Correcting Chronic Constipation

Chronic constipation is usually aggravated rather than improved by the constant round of laxatives. If you have a stubborn case try the following simple treatment. Diet: no particular restriction except inclusion of sufficient roughage, avoidance of fats or heavy food at night; exercise; abdominal massage or such exercise as bicycling, bending; Medication: Prunoids, one tablet at night the first three days, then one tablet every other day. You will be surprised at the rapid restoration of normal function.

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Bovine Tuberculosis

The most prevalent of animal diseases which may be transmitted to the human family, especially to children, is bovine tuberculosis. For this reason State and Federal agencies are maintaining a large staff engaged in the eradication of this disease from dairy herds.

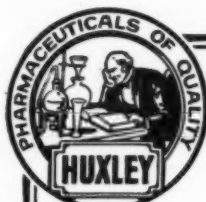
Of the one hundred thousand people who die of tuberculosis in the United States each year, eight thousand are men, women and children who have become infected with the bovine type.

Prevalence of Rabies in Winter Equals Summer Rate

Hot weather apparently has nothing to do with frequency of cases of rabies, the Director of the Hygienic Laboratory of the South Carolina Board of Health, Dr. H. M. Smith, contends. His reports show that approximately as many animals "go mad" in Winter as in Summer, explaining that attention drawn to rabies in hot weather may result from the fact that more persons are bitten by diseased animals in the Summer because they are then out of doors to a greater degree than during the colder months.

Medicine Rediscovered the Patient

It is an interesting fact that the coming trend of medicine is decidedly back to the general practitioner and his personal study and knowledge of the patient. Committees are being formed to investigate this situation and they all stress the importance of the family physician and his knowledge of the patient as well as of the disease from which the patient is suffering. This means, of course, in essence a recognition of the vital importance of the individual characteristics of each patient and an application of treatment not merely symptomatic but designed to supplement his resistance and metabolic processes as may be necessary, to build up resistance, increase appetite and improve assimilation. Both general practitioner and specialists agree in increasing number on the definite value of Gray's Glycerine Tonic Comp. Where the general system needs strengthening apart from any specific medication Gray's Tonic is a powerful agent in most instances. If you are not familiar with it, the manufacturers, The Purdue Frederick Co., 135 Christopher Street, New York City, will be glad to send you literature concerning it.



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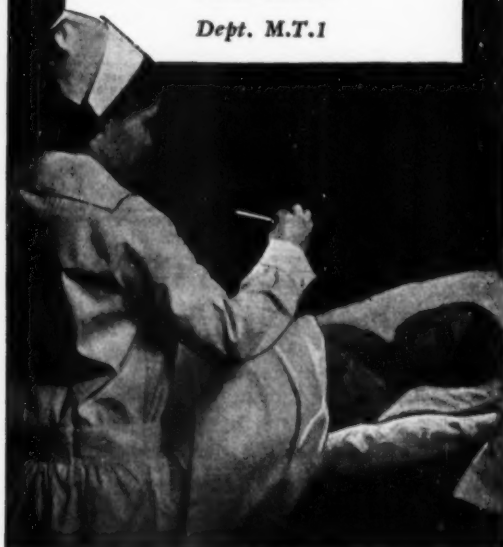
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Public Health Administration

The first quarantines at Ragusa, Marseille and Venice in the 14th and 15th centuries were based on the psychology of fear. They were efforts to prevent the introduction and spread of epidemic diseases. Our first boards of health were born of fear and hope—fear of pestilence and hope that quarantine and isolation would prevent the spread of epidemic diseases. With this origin it was natural that these boards of health should be given unusual police power and definite control of the individual for the good of the community. The early administrative health officers depended upon police power alone, and they were, in effect, policemen. In the first decade of this century unofficial voluntary agencies undertook public health activities of great importance and wide scope and boards of education developed plans and procedures in school hygiene. The responsibility for the health of the people was still squarely placed upon the shoulders of the health officer, yet a large part of the work necessary to discharge his obligation had to be done by personnel not under his direct control. The health officer, therefore, evolved from a policeman, vainly striving to stamp out epidemic disease, into a constructive statesman, courteous and persuasive, who could weld together in one machine the forces engaged in public health activities.

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Fourteen cases of sympathetic ganglionectomy are reported. In 7 cases dorsal ganglionectomy was done, using the removal of the second rib and transverse process as the approach. In the other 7 cases the lumbar ganglia were removed through a trans-abdominal approach.

Four lumbar ganglionectomies for chronic polyarthritis resulted in relief of pain and marked progressive improvement in joint function.

Three ganglionectomies for Buerger's disease with vasospasm 2 dorsal and 1 lumbar are reported.

Two cases of amputation pains and one of brachial plexus avulsion are reported in which dorsal ganglionectomy gave some relief.

Two cases of dorsal ganglionectomy for painful conditions of the face are reported. One case of trifacial neuralgia with recurrence of pain after severing of the sensory root has had complete relief for one year. Another case of atypical pain in the face gave inconclusive results.

One case of megacolon and 1 case of spastic colon were entirely relieved by lumbar ganglionectomy.

CONCLUSIONS

These results demonstrate conclusively that a large variety of conditions are enormously benefited by sympathetic nerve surgery. The field has not even been scratched as yet. The theoretical possibilities have not been dealt with. They offer so many conjectures that to mention them is to invite ridicule. We feel that many of the major surgical advances of the future will take place in the realm of the sympathetic nervous system.—FLOTHOW, *Am. J. Surg.*, Oct., 1930.

Headaches and Suboxidation

About a year ago a neurologist described some twenty-eight or more different types of headaches, yet he over-looked one type that is as prevalent as any, the dull headache with a sense of heaviness and sometimes accompanied by twinges in the shoulders or back, that is the direct result of suboxidation. When the organism is unable to completely oxidize and eliminate the waste products of metabolism it is inevitable that the retained toxins make themselves felt in general malaise and disturbances of function. When you suspect a chronic headache patient of such systemic sluggishness make the therapeutic test with Tongaline. If your experience parallels that of many physicians who have been prescribing Tongaline for years, you will see not only immediate symptomatic relief, but removal of the underlying cause. Complimentary test supply on request. The Mellier Drug Company, 2112 Locust Street, St. Louis, Missouri.

Gall-Bladder Disease

Discussions as to the sources of infection of the gall-bladder have not yet allowed the conclusions of any investigator to be generally accepted. The views of Rosenow, Walton, Wilkie, and others that infection as a rule is blood-borne is not in accord with evidence I have submitted. Two years ago I gave an account of 81 consecutive cases in which the most careful investigations were made for me by Dr. A. L. Taylor and others, in order to throw light upon this question. In 63 cases the infection undoubtedly began in the outer coats. In the remaining 18 it appeared probable that infection beginning in the outer coats attacked the inner coats more severely only when impaction of a stone in the cystic duct caused obstruction, quickly followed by inflammatory changes which fell upon the mucosa first. Subsequent experience has confirmed all these findings. So far as my own work is concerned, there can be little doubt that it is upon the outer side, and not through the bile or from blood-vessels, that infection first reaches the gall-bladder.

The surgical significance of this is apparent; and the difficulty of treating cholecystitis by drugs which first reach the interior of the gall-bladder is explained.—MOYNIHAN, in the *Lancet*.

The Heart in Pregnancy

The determining considerations in pregnancy, as far as the heart is concerned, are the condition of the myocardium and cardiac rhythm. A heart showing serious arrhythmia and atony is a poor risk. Therefore the selection of a suitable heart tonic is important. Cactina Pillets will act as preventive regulator and can be given throughout pregnancy without the slightest risk of toxemia or cumulation. They are a valuable standby wherever the heart is weak. Samples and literature on request. The Sultan Drug Company, St. Louis, Mo.

Plagues and Civilization

Disease, in the form of plagues and pestilences, appears to have been the biological factor most powerful in controlling the growth of civilization.—W. W. Oliver, *Stalkers of Pestilence*, New York, Paul B. Hoeber, Inc., 1930.

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